The Professional ENGINEER

Issue 85

The Panama Canal

Council & Officers 2015

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Presidents Briefing

Greetings and my compliments to you all for 2015

I and the Society thank you for the proactive support given during 2014. The year saw significant activity both within the UK and Overseas. These activities will provide the focus for 2015 as the Society seeks to involve its members in the promotion and expansion of both events and membership growth.

2014 was most positive on a personal level as I had the privilege of debate and interaction with you through a wide range of media use and on a more intimate level face to face. The hospitality afforded to me was second to none and reflects the professional approach and attitudes of my members and fellow professionals.

I am keen, as your President, for this to continue during 2015 through the delivery of an enhanced journal, newsletters and interaction through linked-in. I am finalising my programme for 2015 and I look forward to meeting many of you at events and during my travels within the UK and Overseas.

I would take this opportunity, on behalf of the Society, to thank our affiliated and collaborating organisations and in particular the welcome given in Milan, Singapore and Hong Kong.

Developments underway include the potential for activities in Colombia South America, Hong Kong, Singapore, Australia, America, France, Germany, Austria, Spain, Italy and of course, not discounting our activities within the UK.

J. Malcolm Parker P.Eng
President.

Society of Professional Engineers Linkedin

Dear Members,

The Society has created a linked-in website page and would encourage all of our members and friends to join us on our SPE Linked-in web site to debate and share thoughts and discussions on current affairs and issues, both Nationally and Globally, in the engineering profession.

The Linked-in website can be found by entering "Linkedin" into your browser i.e google/msn etc. which will take you to the linked-in main page where you enter your name, email address and password to sign in and join.

Once you have gained access to LinkedIn it takes you straight to your own personal page, which you then have to start populating with your details, experience qualifications etc.

The linked-in facility also provides a "search for people, jobs, companies" feature at the top of the page, which enables you to search for people that you know or have worked with and enhance your network.

We look forward to your participation and active contributions – spread the word.

Anthony Wedge PEng
Vice President/Liaison Director South America

Membership Subscriptions 2015

Thank you for your support during 2014. The Society is moving forward with its programme for 2015 and would politely remind you that the membership subscriptions are now due!

CONTENTS

Multi-million pound boost for fishing fleet

Brussels deal worth an additional £10 million.
The deal agreed in Brussels will be worth an additional £10 million next year to Scotland's whitefish and prawn fleets according to initial estimates.
This will bring the total economic value of these fleets to Scotland's fishing industry to a total of around £210 million Scottish Fishing Secretary Richard Lochhead said today.
Speaking as he left Brussels following the late conclusion of talks last night Mr Lochhead said: "The deal secured last night will increase the value of Scotland's whitefish and prawn stocks by around £10 million next year.
"This is an increase of almost five per cent on top of the current value of £200 million and will bring more economic stability not just to our fishing fleet but to the onshore sector and many in the coastal communities whose livelihoods depend on it.
"Coupled with decreasing fuel costs this will hopefully provide a bit of welcome respite from the more challenging economic conditions our fishing industry has been facing over the past few years."

Research to Inform the Five Year Review of the Home Report (ISBN:9781785440373)

Conducted to inform the five-year review of the Home Report. This research followed on from, and was informed by, the Home Report public consultation launched on 5 December 2013. The research study was conducted by Ipsos MORI and Retties and Co. and examined how the Home Report has performed over the past 5 years
The research explored the awareness, knowledge and understanding of the Home Report, how it has worked in practice and whether it is meeting its original objectives.
The findings show that awareness of the Home Report is high although detailed knowledge is less common. Sellers felt more confident about the property price and buyers found the repair categories and valuation particularly useful, although many did not read the whole Home Report. Professionals were concerned that buyers see the Home Report as a guarantee of property condition, which is it not.
The research concludes that the Home Report has met two of the three original objectives: to reduce multiple surveys and to prevent artificially low asking prices (although this latter objective is likely to also have been influenced by the housing market). The third objective (to improve the condition of housing stock) is a longer term goal, because the Home Report only has the potential to influence the condition of properties put up for sale.
The research also identified a conflict of interest between the seller, the surveyor and the buyer, which professionals see as inherent in the Home Report commissioning process. This has two potential impacts: pressure applied (by or on behalf of the seller) on the surveyor to improve the single survey, or sellers commissioning a number of single surveys to pick the highest value survey.
The report's authors made a number of recommendations:
¬ The Home Report should be shorter, with a one-page summary at the front containing key information on repairs, valuation and a statement of the Home Report's purpose and status;
¬ More information/guidance on the Home Report should be made available to buyers and sellers before they begin marketing or searching. This should address all areas of misunderstanding (for example, that it is a visual survey only);
¬ The current Home Report objectives should be retained and a new objective be considered that makes the energy improvement requirements clearer.

Accessible Signs in New Zealand

Lee Wilson PEng(UK) MAIPM MWOBO C.BuildE MCABE

Following on from my article in the SPE journal Issue 84 and my publication in respect of accessibility I am pleased to announce the Accessible Exit Sign Project has just made its way into New Zealand. The new inclusive exit sign design will be available later this year through the projects new licence partner – Safety Signs Sales Ltd.
www.accessibleexitsigns.com

Office for Nuclear Regulation (ONR) publishes new five year strategy

The strategy provides the Boards vision and direction for ONR and nuclear regulation which is to be an exemplary regulator that inspires respect, trust and confidence
www.onr.org.uk

Engineering Past to Present!

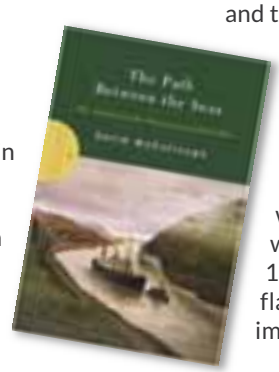
Tim Ward; Vice President World Organisation of Building Officials (WOBO) (Resident San Carlos, Panama)

Countries throughout the world have always reflected on and responded to the needs of society and the manner in which those needs impacted upon both the country and the individual.
Issues of politics, growth, competition, social and environmental needs being paramount but always linked to the concepts of both time and money. Needs always exist and it is noticeable that in many, if not all, situations the focus is on the development of appropriate engineering and the delivery of that engineering by the "Professional Engineer".
A key feature in this respect being the Panama Canal!
As a professional, of some years standing, I welcome the opportunity to reflect on engineering developments both success and failure. As a resident of Panama it feels appropriate to reflect on the developments within my surroundings.

The Panama Canal
The possibilities of a waterway linking the Atlantic and the Pacific in this region has been well appreciated and it should be noted that these possibilities were under consideration for more than four centuries before anyone began "digging the hole".
Spain's King Carlos ordered a survey of a canal route in 1524 but it was presumably decided that the project would far exceed the methods available at that time.

The French, however, started a canal project in 1880 using the builder of the Suez Canal but after 20 years of struggle with the jungle, disease, financial problems and the sheer enormity of the project, they were forced to "abandon" their efforts.
In 1903 Panama seceded from Colombia wherein the U.S.A. signed a treaty. The treaty incorporated a concession for a public maritime transportation service across the country which was granted.
During the following year the U.S. purchased the French Canal company's properties for $40 million and began to excavate. August 15th 1914 saw the U.S. cargo ship Ancon make the first transit.
The Panama Canal entered yet another phase of it's history on Oct.1st 1979 when the process of handing the Canal to the Republic of Panama commenced.
Treaties were developed and signed by Panama's former Head of Government, General Omar Torrijos, and the former U.S. President Jimmy Carter.
The Canal and all of it's infrastructure held in the former Canal Zone was finally under Panama's control.
The construction of the canal was one of immense engineering significance and the full details of its construction are provided through documentation.
A reflection of the translation and incorporation of this information is recounted in the story of this gigantic engineering task told within the book "The Path Between the Seas " by David McCullough
As a young man growing up in the United States I learned basic facts about the Panama Canal and the American involvement in it's construction just over 100 years ago, little did I know I would ever witness this awesome engineering wonder as it progressed with the expansion process.

The Panama Canal, after a century in operation, is still one of the engineering wonders of the world. Even by today's standards it is awesome for me to take friends and visitors to watch as container ships one after another gliding through massive locks and past the rain forests. Considering the Canal in the context of turn-of-the-19th Century technology and the feat of it's construction it is nothing short of staggering.
As one views the container and cruise ships as they squeeze through the locks, nowadays with but inches to spare on either side, these are known as Panamax ships built to the maximum beam and draft which the Canal can handle.
However, many ships were too big for the existing Canal. These ships known as Post Panamax comprise only a small percentage of the world's fleet but the future promises even more and bigger ships, the cargoes of which, if they cannot transit the Canal, will seek other routes.
To answer the needs of the future the Panama Canal Administration is busy building an extra set of wider and deeper locks. The expansion is considered a project of global importance, designed to maintain the waterway's competitiveness and to enhance the value of the Panama route.



In order to better understand the value generated by this expansion due to be completed by late 2015, the initial construction cost of $5.3 billion is expected to be recovered within 11 years. To see the Canal at work, every year handling more than 13,056 blue water ships, under the flags of over 70 nations is more than impressive.

The Canal is about 50 miles long and ships are lifted 85 feet in three locks as each ship passes through the Canal, a trip that takes about eight hours with each ship spending between 14-16 hours in canal waters as they stage them to make their journey between the Pacific and Atlantic oceans. The expansion of the Canal will double it's capacity with two additional sets of locks consisting of 16 gates that make up the lock system. The first gate was placed on the Atlantic side. Installation of the gates require heavy equipment to move as each weighs 3,000 Tons. The new locks will be connected to the existing canal through new navigational systems. The new lock chamber will be 1,400 ft. (426.72 m) long,180 ft. (54.86 m) wide and 60 ft. (18.29 m) deep with 18,000 ships transiting the Canal on an annual basis. The average toll for ships passing through the Canal is in the region of $100,000 but many save about ten times this figure by eliminating the long journey around the horn of South America. Record tolls for cruise ships have been recorded at just over $400,000 Dollars.
The project is phenomenal as can be seen. Further detailed information can be found on **www.pancanal.com**

UNECE Social housing study: the need for affordable housing soars across the global north

By Dr. Orna Rosenfeld

The financial crisis and economic downturn have had a critical impact on the housing sector. While other parts of economy have seen positive signs of recovery, housing in the global north has been slow to recover. In 2014, United Nations Economic Commission for Europe (UNECE) commissioned a study on models, trends and challenges in the social housing sector in 56 countries in response to increased concerns among the UNECE member states about the lack of housing affordability.

Indeed, the study highlights that at least 100 million low- and middle-income people in the UNECE region are housing cost overburdened; they spend more than 40 per cent of their disposable income on housing. Over 50 million Europeans and over 30 million Americans alone spend more than 40 per cent of their disposable income on housing. High housing costs disproportionally affect those with low incomes. High housing costs for low-income households leave limited resources for other basic needs, such as food, health, clothing and transportation.

Housing systems in the global north are diverse and context specific. Although each country defines social housing differently, social housing is an integral part of housing systems that are designed to fulfil a housing need for those who cannot compete in the market, afford to be homeowners or rent decent housing in the private market. When the owner occupied sector and the private rental sector suffer, as was the case in the recent crisis, the demand for affordable housing options increases.

Figure 1.
Number of people experiencing housing cost overburden in the UNECE region

100 million people

in the UNECE region spend more than 40 per cent of their disposable income on housing – this is a conservative estimate.

UNECE estimates based on primary data collected for this research and following publications: CECODHAS, 2011; Joint Center for Housing Studies of Harvard University, 2013a; European Union, 2012; Rosstat, 2012.

UNECE Social Housing study shows that the number of households registered on social housing lists in the global north has risen since the commencement of the global financial crisis. The social housing waiting lists in the United Kingdom are at 1.8 million, 1.7 million in France and 1.17 million in Ukraine. The United States of America mark a shortage of 5.3 affordable homes while the waiting period for this type of housing in the Russian Federation is estimated to be 20 years. The need for housing is the highest in the global cities. Here the lack of access to affordable housing affects labour mobility and future competitiveness (see Table 1). The recent crisis has not only increased but also diversified the social housing need. The elderly, young (first-time buyers), middle-income households and key workers as well as vulnerable and special groups are in housing need.

Table 1. Social housing waiting lists in global cities (households) Copyright@UNECE 2014

London	Paris	New York
354,000 (Greater London)	550,000 (Ile-De-France)	347,500 (New York City)
2012	2013	2014

The UNECE Social Housing Study finds that there are three key factors that contribute to increased housing need apart from the economic crisis: (1) residualisation of social housing stock since 1980s; (2) cuts in public spending and limited access to finance; (3) insufficient housing supply in general and social housing in particular.

In some countries such as the USA the housing construction has plummeted as the result of the GFC primarily, others face housing shortage that has accumulated over several decades. The housing construction in Sweden is said to be lagging for 20 years. In the countries in transition the annual housing output doesn't reach even 50% of that of the 1980s. In the UK 250.000 new housing

Box 1.

The study examines social housing in 56 countries in the global north

- The United Nations Economic Commission for Europe consists of 56 member states located in the global north, chiefly Europe and North America (see the map below).
- UNECE region it includes former socialist countries or countries with economies in transition and countries with advanced market economies.
- In comparison to other world regions the UNECE has the highest level of urbanisation and relatively high quality of housing and consustuction.

Copyright@UNECE 2014

units are needed annually to respond to the current demand, 500.000 in France.
Current challenges are real problems but also opportunities to re-examine the sector, adjust it to the new dynamic of the housing market and meet new aspirations, such as energy efficiency and customer adjusted design. Interviews with representatives of governments, international banks and professional organisations, show that the majority of the UNECE member States are presently in the process of reassessing their housing policies in response to the observed need. Significantly, the shift in the housing sector that the UNECE Social Housing Study highlights is perhaps the most significant one since the 1980s when the housing policies turned away from social housing tenure.
The UNECE Social Housing Study contributes to bringing social housing to the forefront of the housing agenda of UNECE countries and to providing counsel for policymakers whose actions can have an effect on where and how people live. In addition to in examination of the challenges in the social housing sector, the study provides guidance on following issues:

- Promotion of tenure balanced housing policies
- Adaptability of housing policies to high and low housing demand areas
- Increasing housing provision (all tenures)
- Promotion of integrated approach to social housing including: energy efficiency, housing quality and health
- Promotion of inclusive design and increased housing choice
- Advancing governance and partnership working in social housing sector

including: engagement with local authorities and cities, engagement with international banks and investors, engagement with housing providers, engagement with residents

- Integrating international efforts in social housing sector

The study is intended be a platform for further discussion and launch in-depth and context specific research for advancing social housing development by governments, local authorities, investors, private developers and NGOs to advance social housing as a critical housing option.
To download the main findings of the study please go to this address:
http://www.unece.org/fileadmin/DAM/hlm/sessions/docs2014/75th_session/Unofficial_docs/informal.note.2.pdf
The full study will be available after February 2015.

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Let the water in: Boston plans Venetian solution to rising sea levels

Photograph: Boston, built on a marsh and surrounded by water, could get a lot wetter in the future (Nelson48/Wikimedia Commons)

The American city of Boston has arrived at an unusual plan to deal with expected rises in sea levels: let the sea fill up a new canal network, and become New England's answer to Venice.
A new report,The Urban Implications of Living with Water, brings together contributions from more than 70 engineers, architects, politicians, insurers, developers and property professionals. The central idea was to put in place an "adaptive masterplan" that would evolve over time to mitigate rising sea levels and more frequent storm surges.
The plan reimagines the Harborwalk area as a kind of inhabited sea wall that would protect the district and provide public recreational and development opportunities.At the same time, the street network, utilities, and buildings would be modified by small amounts each decade to adjust to predictions as to sea level rises and anticipated storm surges.
"We have time," the report says, "to create a more resilient built environment through a phased process and incremental improvements that account for development cycles, infrastructure lifecycles, evolving conditions for financing, and the changing insurability landscape."
Among the changes suggested are elevating ground floors and installing external walkways on the second floors of buildings.Changes to building regulations and accepted best practice are needed to create a more water resilient urban environment, the report says.
The focus of any canal-building would be the Back Bay, a well-to-do neighbourhood that used to be a tidal bay.Experts say that the Back Bay's streets will be underwater by the end of the century, so converting them into canals would make a virtue of necessity – and possibly even add a further premium to the value of the properties there.
One problem with the plan is that, unlike Venice and its almost tideless lagoon, Boston's tidal change is about eight feet a day.
John Macomber, a senior lecturer at the Harvard Business School, told the BBC recently: "The canals would be either high part of the time or low part of the time. So we would have to decide whether they would be really deep or tidal."
The plan has been put forward by a group of planners and academics led by the Urban Land Institute and the Boston/New England Sustainability Council. They are arguing that the city's extreme vulnerability to climate change – not only is it surrounded by water, but it is also built on a marsh – mean that innovative solutions have to be found.
The likely effects of climate change on Boston have been outlined by the Preliminary Federal Emergency Management Agency, which has drawn up maps showing what it expects the city to look like in 100 years.
This predicts increases of 4ft for some sites in the south of the city, and the Boston Redevelopment Authority has already updated its project guidelines to require a developers to submit a "Climate Change Resiliency and Preparedness Checklist".

Investment in Support Services is Vital as Contractors Respond To RHI

With over 13,000 accredited installations now registered for the Renewable Heat Incentive (RHI), Sustainable Building Solution (SBS), part of the Travis Perkins Group, is calling for the industry to proactively continue its support by offering easy access to services.
With an appetite for the scheme anticipated to continue into 2015, the company predicts that the RHI will successfully improve efficiency and growth in the renewables sector. Market demand will continue to fluctuate with an already identified increase in the uptake of air source heat pumps and biomass boilers in particular. As a result, on-going training needs to be encouraged if high-quality installation standards are to be maintained and uptake is to remain strong.
Paul Joyner, Managing Director of SBS, said: "This continued interest in RHI, as proved by the growing numbers of accredited installations reported since the spring, is extremely encouraging and marks a positive future for sustainable business growth and the quality of building standards in the UK.
"Installers must be able to have confidence that as the RHI reaches new milestones they have easy access to the correct advice and training. I see the construction industry as a whole, which includes the roles that SBS plays, as central to this."
To help installers access RHI opportunities, SBS has developed a range of assessment, training, and mentoring services covering biomass, solar thermal, and heat pump technologies. MCS accrediting can also be achieved through SBS' official partner PPL Training.
To find out more about the RHI and how SBS can help visit **www.tpsbs.co.uk**
Rose Hayes
Account Director
rose@wpragency.co.uk
For further information please contact Rose Hayes or Amelia Walker email **rose@wpragency.co.uk / amelia@wpragency.co.uk**

Tracerco: what a leading brand looks for in engineers

As a leading provider of industrial technology, Tracerco offers a variety of detection, measurement and diagnostic solutions for many industries. From subsea technologies to process diagnostics and radiation protection, Tracerco is committed to innovation and development, manufacturing usable products that have real benefits.
In order to stay on the cutting edge of their incredibly competitive industry, Tracerco has a 300-strong team of dedicated, talented employees. This includes engineers, physicists, chemists, electronic engineers and more.
Due to the nature of the industry, Tracerco employees are highly motivated and enthusiastic, tackling projects and problems head on with a positive mind-set. Creativity and the ability to adapt to new ways of thinking is similarly important.
Of course, a solid education is vital too. Prospective engineers should have achieved relevant qualifications in their chosen area. They will also have strong scientific and mathematical skills that they can apply logically to a given situation.
To keep track of their often hectic schedule, employees should have excellent project planning skills, showing the ability to meet various deadlines. Excellent interpersonal skills is also important, as the roles can mean working in teams and alongside clients.
www.tracerco.com

Engineering – Materials

Why are they using Asphalt in Silage clamps for concrete protection?

Asphalt contains Dioxins which is harmful to humans and should not be used in the food chain. Any food products coming into contact with Dioxins need to be destroyed Dioxins are formed as an unintentional by product of many industrial processes involving chlorine such as waste incineration, chemical and pesticide manufacturing and pulp and paper bleaching. Dioxin is formed by burning chlorine based chemical compounds with hydrocarbons. In addition to cancer other health problems linked to dioxin exposure are birth defects, learning disabilities, immune system suppression, lung problems, skin disorders and the list goes on.
The major sources that expose us to dioxins are in our diet coming from milk and dairy, beef, fish, pork, poultry and eggs.
Concrete needs protecting from acid production caused during fermentation. The acids concerned are lactic acid, acidic acid, butanic acid and enzymes. These are highly corrosive to the concrete walls and floors. The fermentation can carry on for weeks after being ensiled and levels can vary depending on the dry matter and the nitrates in the crop i.e. maize, silage or whole crop
After recent discussions with senior technical people at the Environmental Agency they commented that the asphalt should not be recommended to be used in silage clamps
We have been searching for an alternative product which is 100% Eco friendly, highly competitively priced, accepted by the Environmental Agency and can be used on the walls and floors on new and old concrete.
Vetrofluid is a clear liquid that penetrates the concrete which impregnates to a depth of 40mm sealing the pores of the concrete and becoming a permanent barrier offering protection against water, rising damp, acids, carbonation and freezing and thawing cycles.
Vectrofluid is a superficial hardener meaning it protects fresh concrete floors and acts as a curing compound with an anti-evaporation effect whilst also reducing cracking caused by plastic and hygrometric shrinkage.
This must be a better solution for putting into our clamps than asphalt or similar topcoats
Materials should be considered and certified in accordance with CE UNI EN 1504-2 and take into account the Environmental Product Declaration within S-P-00143
Ray Whitley 07831 236766
www.rubberspraysolutions.co.uk

Plastics in Automotive Engineering 2015

Image: VDI

Engineering plastics and fiber-reinforced composite plastics have over many years proved themselves as innovative materials in modern automotive engineering, in both cars and commercial vehicles. Today, plastics are valuable pacemakers for lightweight design in body construction and add-on body components.
Body structures using carbon-fiber reinforced plastics are opening up new dimensions in automotive lightweight design. In the case of body panels, engineering plastics make geometrically challenging designs possible as well as particularly economic component solutions due to integrative production processes. In the vehicle interior, plastics are today a solid foundation for designing high-quality engineering surfaces; when combined with decorative elements made of wood or technical design elements, designs are created which are especially economic as well as aesthetically appealing, designs which would be very difficult or even impossible to achieve with other materials. Furthermore, in the vehicle concepts of the future, renewable raw materials will be used increasingly for visible areas when designing interior trim; here plastics are indispensable to technical design and long-term dimensional stability.
Innovations in plastics technology have a direct influence on the vehicle designs of tomorrow. Innovative structural reinforced-fiber constructions using chopped carbon fiber, flat heating systems for electric vehicles, back-injected or thermoformed moldings, plastic glazing with integrated electrical and electronic functions, and a plastics-based lighting and ambience concept using luminescent films and background lighting systems – all these make tailored system solutions possible in passenger car and commercial vehicle construction while securing long-term international competitiveness in the plastics and automotive industries.
The Association of German Engineers invites experts to Mannheim on the 18th and 19th March 2015 for its annual plastics conference;
"Plastics in Automotive Engineering 2015".
More than 1400 automotive experts are expected to this international conference. Strategic overviews from both the market and from research, up-to-date technical reports about innovations in plastics in the car and commercial vehicle sectors, and practical examples from plastics processing will give detailed insights into the current state of the art in plastics technology and automotive applications. A technical exhibition featuring plastics producers and machine manufacturers as well as an associated motor show with the latest automobiles and commercial vehicles facilitates the exchange of technical information and opinions right at the part itself.
With current lectures from:
Adam Opel • Akro-Plastic • AUDI • BASF Designfabrik • BMW • compoScience • Daimler • DLR Institute for vehicle concepts • DuPont • Ebertconsulting • EMS-GRIVORY • Evonik Industries • University of applied sciences Aachen • Ford • Fraunhofer ICT • FRIMO • General Motors • Hella • Kunststoff-Institut Lüdenscheid • KraussMaffei Technologies • KTM-Technologies • Langendorf • New Materials Bayreuth • Munich University of Applied Sciences • Plastic Omnium • Porsche • PSA Peugeot Citroën • RENAULT • SABIC Innovative Plastics • SKZ - The centre of plastics technologies • Technical University Munich • TMG Automotive • Toyota Motor Europe • TTT The Team Composite • Volkswagen • Werkzeugbau Siegfried Hofmann.

Further information to the conference may be viewed at
www.kunststoffe-im-auto.de

Dr. Achim Paul Eggert VDI PEng (UK) FSPE, VDI-Society for Materials Engineering

VDI The Association of German Engineers

VDI-Society for Materials Engineering

The VDI-Society for Materials Engineering makes a point of networking experts both from business and from areas of science close to actual applications in order to allow discussions of current questions about components and products from the point of view of materials and corresponding technologies and also to enable engineers in this field to access via the network the approaches to solutions which have been worked out.

The VDI-Society for Materials Engineering is one of 12 technical societies inside the Association of German Engineers - VDI, the largest German engineering association with more than 153,000 personal members.

Building Information Modelling

The Professional Engineer is involved in development at all levels throughout the world and success is very much linked to the availability of "current information" and the transfer of that information throughout the development team on a prompt, regular and recorded process. Success is about compliance – compliance achieved through effective communication.

The Society of Professional Engineers works with organisations and is pleased to announce their involvement and collaboration with the European BIM Summit 2015.

Embrace BIM (as soon as possible) at EBS15

EBS15-The European BIM Summit 2015 is a one and a half-day Summit taking place on February 12th & 13th in Barcelona at the BCN World Trade Centre. In an iconic building (Henry Cobb was its architect) set right on the seafront in Barcelona's Port Vell, the European BIM Summit 2015 will be attended by 400+ delegates, 10+ sponsors, 20+ public administration bodies, 20+ BIM Projects, 5+ universities and will be covering the latest BIM application opportunities and projects in Europe.

Europe's building life cycle needs to urgently incorporate new technologies to be able to innovate and offer the sector a new future. The BIM concept covers control and management of all information generated in the design process, from the conceptual design phase and decision-making at the construction stage (by means of modelling) to the most advanced phases of structural and installation design and, most importantly, during the period of production, management and maintenance of an existing building that is transformed or is of new construction.

KEYS TO THE NEED FOR TRANSFORMATION OF THE CONSTRUCTION SECTOR IN EUROPE

▶ Government agencies in Europe cannot allow a situation in which their building projects and constructions do not meet previously established budgets and timelines.

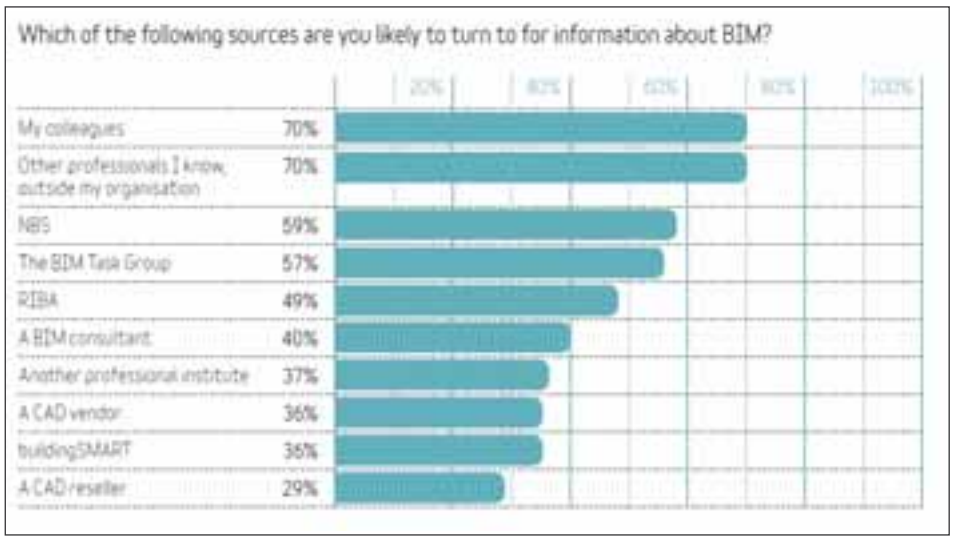
▶ Construction is the production sector with the highest unemployment rate and the lowest implementation of industrialization. This makes it the sector in need of most attention and firm commitment to innovation and efficiency.

▶ In January 2014, the European Parliament voted to update legislation on public procurement by recommending the use of electronic tools such as BIM for projects, works and open design competitions.

Directive 2014/24/EU of the European Parliament and of the Council of 26 February 2014 on public procurement and repealing Directive 2004/18/EC de 28.3.2014, Article 22, Point 4

The BIM model is a single digital model containing documents that are coordinated and shared between disciplines and used as a centralized or even delocalized (cloud) management tool in a collaborative working environment that increases control of all the processes involved in the building life cycle. This converts Building Information Modelling as the emerging approach in construction processes (including all dimensions from 1D to 8D): design and project, analysis, documentation and management related to architecture, engineering and related procurement.

▶ This is why we need an event that is open to different disciplines, institutions and collectives, to represent the state of the art of BIM in the



construction sector.
From the Col·legi d'Aparelladors, Arquitectes Tècnics i Enginyers d'Edificació of Barcelona (CAATEEB) and BIM Academy, we have set the organization of this high level conference on Building Information Modelling (BIM) jointly with the main actors in the different subject that are covered: European associations as AEEBC, CIAT, buildingSMART, Society of Professional Engineers, Obge-Bole and special guests as AIA; Product manufacturers and their translators to BIM as Roca, Bimética; global builders as CCC, boKlok; corporate real states as Cimpress; projects as Abu Dhabi Airport, Crossrail; strategic BIM software such as Trimble, Bentley, Cype, Graphisoft, etc.
The value proposition of the European BIM Summit
Aware of the importance that this new model of organizing cross-building processes is having for the sector in Europe and worldwide, and the need to adopt more efficient practices, the European BIM Summit will be the platform for learning and interacting with international experts. The entire construction industry needs to understand the changes, benefits, opportunities as well as improvements that BIM will bring to companies, public bodies and technicians, to regenerate outdated models.

▶AN OPPORTUNITY FOR STRATEGIC POSITIONING IN EUROPE

Implementing a new innovation process in any sector marks the difference between leaders and mere followers.

▶LEARNING EXPERIENCE

The European BIM Summit is conceived as an incentive programme to present, capture, share and generate knowledge. Contents, connections and networking are the basis of this event.

▶ORGANIZATIONAL FORMAT AND EXPRESS LEARNING

In only one day and a half, over Thursday and Friday, the various representatives of collectives involved in the construction process will have the chance to present ways of transforming their profession and its processes, and of advocating change, and accepting and welcoming it.

▶AN EXCLUSIVE EVENT for those who want change (and for those who need it)
The papers, presented by foremost experts from all over Europe, will centre on the attendants quickly accepting and adopting change, correctly managing change, making change positive and thereby acquiring a competitive edge.
CAATEEB is an umbrella organization for more than 8,000 building professionals skilled in all phases of the construction cycle from planning to execution, the subsequent maintenance and renovation, and always adding value to quality and economic control of the building process.
Together with BIM Academy, one of the main education bodies in Spain, we are improving training, and implanting BIM in the construction and public sectors.
Ignasi Perez Arnal
www.bimsummit.eu

Image 1
Image courtesy of Zoubeir Azouz Architecture (imagen ciudad digitalizada)

Image 2
Image courtesy of Audi (foto roja y negra)

Image 3
Image courtesy of NBS (gráfica azul)

Image 4
Image courtesy of IMC (edificio BIM seccion 1, networkia BIM)

Environment Agency: Rising sea levels will wash away 7,000 UK homes

Some 7,000 homes around the UK will be swept away by the sea over the next century because it will be too expensive to build sea defences, according to a report from the Environment Agency.
The research, contained in an unpublished agency report seen byThe Guardiannewspaper, also predicts that more than 800 buildings will be lost during in the next 20 years.
Chris Blunkell, a coastal community campaigner, toldThe Guardianthat the government should learn from the "overwhelming" impact of last year's storms. "Last winter's storms saw the eastern seaboard overwhelmed," he said. "If government won't defend all people living on the coast, then it must make sure that they can move elsewhere, and that means compensating them for their loss. It's wrong that the costs of climate change should be borne by the most vulnerable."
Earlier this month, seven homes were badly damaged as the biggest tidal surge in 60 years hit the Norfolk coast. Three properties fell into the sea at the village of Hemsby and four more were seriously undermined. Ray Mooney, who was inside his home as the storm hit, told the BBC: "I heard a crash and the whole back part of the floor caved in. Everything went down." He said he was assessing the damage but expected the property to be either demolished or washed out to sea. "This is my only asset," he said. "That's it, I haven't got anything else. I had just done the house up to sell but now I have nothing. I'm homeless."
Blunkell contrasted the sea defences for London with the rest of the country. He said: "During last year's tidal surge, the biggest since 1953, some people on the east coast were evacuated from their homes and given a biscuit in the church hall. Yet Londoners could sleep easy protected by the Thames Barrier. A biscuit for some and a barrier for others is unjust, and such injustice will grow with rising sea levels."
The population of London is protected by Treasury rules that say any coastal defence work must save £8 for every pound spent. This means that built-up areas with valuable houses are more likely to benefit from what public spending there is on sea defences.
At present there is no compensation scheme for people who lose their homes to the sea.
According to the report, the county most at risk from sea surges was Cornwall; more than 70 homes are expected to be swept away.
David Rogers
www.globalcomreview.com

Petrochemicals fire detection industry in the North Sea – the challenges and solutions

Ali Aleali Business Development Manager FireVu.

Petrochemicals fire detection is critical to vulnerable facilities. The costs of disaster are high in assets, disruption and potentially life. Early fire detection is crucial in responding to fires that can develop quickly and envelop production facilities and materials.

In August this year it was reported that a fire broke out on Tartan Alpha, one of the oldest rigs in the North Sea dating back to 1979, located 177 miles north-east of Aberdeen. The fire occurred in the rig's generator room and was put out without injury to any of the 122 crew. It was the fourth fire reported on a North Sea installation this year.

Such incidents, even if they end without severe consequences remind oil companies, workers, safety and emergency professionals of the dangers of working in the North Sea oil fields.

Naturally previous disasters are brought to mind and no more so than the Piper Alpha disaster that killed 167 oil workers.

The nature of the substances and environment means that petrochemical companies need to take actions to address fire incidents that might occur despite stringent safety measures being in place.

Key fire risks of petrochemicals

Some petrochemicals are notoriously volatile. They do not always need ignition sources close up or directly introduced to them to start a fire. Fires can be started from sources of ignition in close proximity. As the petrochemicals vaporise, they do not necessarily need to be direct contact with the facility to ignite a fire.

The greater part of danger generally comes from the friction and heat generated by extraction machinery, which naturally presents an in-built fire danger.

Petrochemical facilities are complex extraction facilities and supply chains with distribution terminals, offshore and onshore plants. The potential is there for an incident involving a hazardous substance at any part of the process.

Neighbouring sites must also be considered, not only in the context of fire detection, but also the potential damage that can be inflicted onto them when in close proximity, for instance, at port facilities.

Oil companies also need to take into account the resources that are available from the local emergency services in terms of specialist equipment, the gear it has and how quickly can it be deployed? Can the fire detection system be connected to the emergency service to provide quick response?

The Oil and Gas industry's approach

The oil and gas industry is one where the benefits of providing more than satisfactory or obligatory fire detection and prevention solutions for facilities more than outweighs the cost implications. There is no room for accepting risk that can be reduced or eliminated – a factor that does not apply to all sectors.

The cost of a disaster in terms of People, Environment, Assets and Reputation – the PEAR acronym – outweighs the cost of investing in effective safety technology. Higher insurance premiums for less stringent fire detection and prevention can also be factored in the financial decision making process.

Therefore there is no real challenge in marketing the need for investment in disaster management technology and safety equipment for oil companies in the North Sea and also across the world. The drivers are very much there for oil companies to invest in technology to improve safety above legal requirements.

Fire detection systems

Fire detection solutions can generally be grouped into Aspirating Smoke Detectors (ASD), Infrared (IR) and Visual Smoke Detection Solutions (VSD).

FireVu's Video Smoke Detection developed out of a specific issue for British Nuclear Fuels. Many new innovative technologies are borne out of solving specific problems and then rolling the solutions to other industries. FireVu mirrored this technology tradition. The voluminous nature of BNFL's power stations' turbine halls made early fire detection very challenging. An effective solution was required. Video Smoke Detection (VSD) began through using motion system technology to identify and analyse the behaviour of smoke patterns via visual monitoring.

Each has its own attributes for different environments.

Aspirating systems identify particles of smoke suspended in the air to alert safety operators to fire danger. It is highly sensitive, often detecting smoke before being visible to a human eye.

ASD can be effective in indoor environments but speed is needed to respond to a fire and the particles must reach the detectors, which takes time in voluminous spaces and so can sometimes prove problematic. In outdoor locations it can be compromised further. It can also struggle to distinguish between dust and smoke particles.

IR are simply transducers of radiant energy, converting radiant energy in the IR into a measurable form.

Detecting IR energy emitted by objects takes away reliance on visible light and so obscured conditions should not affect its effectiveness although thick smoke is an issue; oil and grease can also be problematic.

Most IR detectors are designed to ignore constant background IR radiation, which is present, focusing on the modulated part of the radiation. When exposed to modulated non-flame IR radiation, IR detectors become more prone to false alarms.

Visual Smoke Detection (VSD) is a mature technology developed, refined and tested over the past 20 years or so and has been used in the petrochemical industry. It uses flame as well as smoke detection and analysis to give early alerts. Being a video solution distance is no issue and it can be used outside, even in challenging conditions. Thermopile (temperature sensing) monitoring can also combine with VSD technology to give it another technology to make fire alerts.

Detectors, such as those used in VSD

solutions can be linked to alarm systems and integrated into control systems, AC shut down, positive air pressurisation of escape staircases, starting suppression systems.

More considerations when selecting a fire detection system

Petrochemical facilities offer a range of hazardous scenarios. So it goes without saying that the most appropriate fire detection solution for each scenario is dependent on the danger.

The construction or decommissioning of a site will result in high temperatures. The nature and light frequency of a gas torch flame, a welding arc, or grinding sparks, are different from the light frequency emitted by a fire flame. This might have a bearing on selecting a fire detection solution.

Conclusion

Petrochemicals fire detection technology is generally becoming more sophisticated and refined. The cost of implementing effective solutions is more than compensated by the potential for fires and their consequences.

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Appreciation is given to the Scandinavian Oil Gas magazine – October 2014

Facilities Management - Morocco

Mohamed Rachidi LCGI NEEC P.Eng(UK) MSPE

Mohamed is a Professional Engineer and in conjunction with the Operations and Maintenance Department Manager is responsible for the building electrical services and associated engineering for the Société Générale Morocco(SGMA) Headquarters.

Facilities management: an under-utilised resource in spite of the changing and unpredictable economic environment.

Talking about the management of Facilities management recalls the dimension of organisational efficiency of enterprises. Indeed, all decisions regarding directly or indirectly Facilities management do not pass without any impact the company's core business.

On one level, the development of Facilities management depends on understanding and awareness of the potential presented by this entity of the enterprises. The Facilities management can contribute to the achievement of working conditions with a level of quality useful to support the core business of an enterprise. On a second level, despite the economic climate is marked by a competition that we see a intensifying and a change we perceive accelerating, planning facilities management can generate a return on investment and help the success of the core business of enterprises.

Organisation of Facilities Management

The facilities management is an entity of interfaces that includes several trades including space management, the environment, the communications tools and other services that contribute to the achievement of key objectives of a business.

Certainly, during the life of a business, boards of organisations take several strategic decisions which aims to develop the adaptation of their structures to changing markets, to restructure and select investment opportunities. This same

level of authority establishes the conditions for operation and development of facilities management. However, physical resources and support services can be treated out off key activities of an enterprise. Accordingly, supports activities lack the opportunity to achieve the same degree of consideration offered by enterprise boards to the core business. Furthermore, looking from quality optics, the first impressions are formed within the first five minutes of contact, a considered reality moments. However, sites and buildings are projecting the identity of a business; teams of facilities management that deliver the support services represent the first contact with customers, where the vitality of these moments of contact for the position of facilities management.

Perception of Facilities Management

Moderately, the Facilities of a company are perceived as a source of competitiveness. They are perceived in two different ways: The Facilities are seen as assets that appear in the balance sheets and accounting statements or an administrative position, often considered as expenditure centre. In both cases, the way of seeing Facilities can hardly allow the company to take full advantage of the potential of facilities management and what role they can play in improving the overall performance of business activities. In time when few companies have come to identify opportunities, and to recognise the contribution of facilities management in business success, many companies continue to see the development of its Facilities from the angle technical and project without expanding the vision to cover all business perspectives . In connection with this, the architects and developers of physical spaces do not have enough opportunities to unite the areas of design process and facilities management with strategic vision of enterprises.

In contrast, the facilities management is wide enough to be limited to product design and production of physical work spaces, and it encompasses the integration of human resources, technology and support services to achieve the company's missions and objectives.

"The building environment must provide users with an essentially democratic framework; enrich their opportunities by maximising the degree of choice available to them - Centre for Facilities Management"

Such an environment, when properly constructed maintains and encourages the involvement of all members of the organisation by facilitating communication between the different entities of the company, projecting a positive and responsible image and improving business productivity.

Conclusion

Attitudes towards the management of facilities will evolve towards a management of facilities such as a business service or business assets with potential to add value to the activities company's core business. Business strategists need to reshape the form of their organisations in a parallel way with the development of the work environment, benefiting from the resources of facilities management as a catalyst for change.

Building Control in Israel – A Paradigm Change

The inherent change of the 'Pergolas Reform' is not merely a legal change, but a fundamental change of perception. This change requires internalization, understanding, assimilation, supported by guidance, implementation, and enforcement, as it concerns changes of actions, tools, competencies and processes of construction and regulation.

What is changing? – Everything!!

- **the re-structuring of local committees**
- **technological changes**
- **qualitative changes** (methods, professional standards, methodology, building control, qualifications)
- **regulation processes** (procedures, tasks, schedules and interfaces) and overall change of attitudes, positions, expectations, perceptions and behaviors of all concerned

Over the years, the norms of action and the norms of behavior within Israel have become fixed and internalised in the field of construction regulation. This has created the 'vicious circle' that should have been replaced by a "smart circle", according to Seiler Report (2003). Some of the norms were derived from legislation but most of them simply came about through common practice and they have become rigidly fixed – perceived as in existence since ancient times.

Changes should reflect the creation of a system to achieve "public good", on reflection this appears to have occurred within Europe and the aim is for this to be replicated.

Change hurts and often leads to protectionism along with confrontation and the potential for in-built inefficiency. Where problems arise the initial call is to identify someone to blame and the consideration of issues such as fraud, infringement, failure on technical matters become the norm.

In reality the failures often reflect the lack of understanding of the building code, inadequate knowledge or in many cases failure to follow the details within the code. These mistakes are not necessary those of malice or criminal intent.

Adversarial approaches do not support the effective delivery of the codes or enhance the standards of construction – a supportive role should be implemented.

"**Guidance is better than enforcement".**

The current situation within Israel would suggest that an individual wishing to build has a protractive wait, sometimes up to a year, before receiving a building permit. Once the permit is in the individual's hands the perception is that the individual is free to build as he pleases – provided he doesn't get caught. The proposals seek to create a process that reduces the timeframe and creates an environment of co-operation as opposed to conflict.

The current permit system has allowed "selective policies" to be created and with this resultant variations in code application at both the design and construction phases. The proposal for Building Control Bodies will enable the works to be assessed and reviewed at all stages within the development process. This significant variation has caused great debate amongst the authorities and the industry.

The proposals will create consistency and coordination with the Building Control Body being a key player in a one stop shop approach.

It is recognised that there should be a clear distinction between the committee and the local authority recognising that the independence of the professionals – Local Permit Authority and Building Control Body – should not be hampered by political interference.

The essential change is reflected within the concept that Permits are not subject to public discussion.
The New Process

- Separation between planning and building
- Distinction between spatial control and design control
- Regulation by two different entities operating in one integrated process
- One request – one Permit

In reality the change is not major since the design control was not previously carried out, it is a new function, not a change.
The precise definitions of design and spatial areas, and the maintenance of boundaries, are essential to enable the building control process to operate efficiently. It is essential that the spatial aspects of control are not imposed on the Building Control Body as to do so would create a never ending system of spatial checks that may result in an application never being accepted.
The change is one of perception, in the past the designer was required to present the entire planned project, seek a "free opinion" of the Committee Engineer on the quality of the project and guidelines for both planning and design changes to meet the Engineers complete satisfaction.
The new process reflects the change in that the examination for the design has become a compliance test rather than a "free opinion". The compliance has been moved to an information stage where the integrated spatial guidelines, infrastructure data and design requirements are brought together for assessment. This assessment, if in compliance, would lead to the award of the building permit.
In reality violations of the building code occurred because of the lack of independent enforcement. Traditionally engineers designed to standards, architects designed to statutory plans and in many cases there was an indifference to compliance with the detailed technical requirements – as if it was foreign legislation - if there was a lack of clear definition and regulation issues were not dealt with. In many cases the old regulatory system may not have been fully applicable and therefore a new comprehensive structured building code is required.
The proposed Building Control Bodies will need to utilise the code and apply it consistently to all construction proposals and reinforce the transition from drawings into the finished building.
This process should remove or minimise the risk of failure and apply the proposed norms at all stages.
The proposals follow the natural design processes of buildings in accordance with normal professional practice. The process reinforces the control element from the early design stages to completion meeting the basic goal – building safety – a focus on prevention as opposed to rectification. The proposals are, in many ways, seen as a safety net for both the designer and the builder.
The concept of Building Control is new to Israel bringing forward change that may be seen as going against existing and common practice. It must be recognised that the process addresses buildings in the "global sense" allowing the bringing together of all specialisms and their application through the Building Control Body.
In Israel a Building Control Professional is to be termed the Building Surveyor, an individual of integrity and professionalism with the ability to address all the main areas of the building. Key skills relating to the assessment, review and analysis of technical matters and their constructive application within the construction process and support of the development team.
The proposed changes have been supported by the RICS. The developments that have taken place have also caused a reflection on the building code with a move towards functional and performance based requirements that will enable a professional approach that considers sampling, evaluation and risk assessment.
The role of risk management, performed professionally, guided by predefined risk assessment scenarios is an essential key to compliance.
The proposals, to many, are seen as phenomenal but in reality the proposals bring together a system that may be applied consistently in support of compliant development. Success is not only the recognition of the physical changes to both licencing and control but also the encapsulation of the conceptual changes relating to behavioural change, changing values and the enhancement of quality.
As individuals we need to reflect on the process of change and recognise that it is the "internalisation" of all involved, the recognition of duties, acceptance of responsibility and the goal of quality, design and workmanship within the built environment.
The future is in our hands!
Opher E. Sever
Sever Architects and Engineers

C.B.C. in Conference

Complete Building Control has had an extension to their Approved Inspector status by the Construction Industry Council.
A Conference was held at the Saunton Sands Hotel in North Devon, a delightful setting and excellent hospitality. Directors Mel Singh and Clive Parker presented papers on the quality and delivery of a building control service. Tony Ley gave a paper on Building Regulations Part F (Ventilation) – the past, present and future.
An opportunity was taken to visit a 17th Century Cob & Thatched farmhouse, a Grade 2 listed building which had undergone an extensive refurbishment where modern day building regulations had been applied to a 300 year old building. The event was complimented with presentations detailing sprinkler systems in domestic property and the Party Wall Act especially where the structural aspects of the building regulations were concerned.

Elizabeth Quay – An icon of the future

Artist impression of Elizabeth Quay Perth Western Australia

The creation of an effective built environment reflects the needs and goals of society at any point in time. History has shown that the relationship between man and the sea has been one of potential conflict. Society has very much focussed on growth and in the coastal area this has seen the battle for the reclamation of land from the sea and its introduction into the development process. These activities take place throughout the world and it is to be noted that current activities within Japan, Boston and London are all linked to the actions of the sea and in many cases the control of tidal action.

Perth has seen contrasting development over time and prior to the European settlement the site of Elizabeth Quay was used by the Noongar people and the area holds both cultural and heritage significance.

European settlement instigated a period of reclamation to provide areas for transport, to facilitate the railway, commerce and leisure and the bringing together of public open spaces.

The land reclamation, in many ways, alienated the sea and created a barrier separating the Swan River from the city. Time has seen renewed pressure and a desire to reconnect Perth with the river and create a truly waterfront city. These desires are being brought to fruition through the developments linked to the Elizabeth Quay Project and the guidance put in place by the Metropolitan Redevelopment Authority, Government of Western Australia.

Elizabeth Quay is located at the foot of the central business district and will reconnect the city with the Swan River and provide much needed hotel, commercial, residential and retail accommodation, set around a stunning 2.7ha inlet and surrounded by high quality public spaces.

The vision of Elizabeth Quay Project is to transform the relationship between the city and the river and enhance the identity of central Perth. Elizabeth Quay will be a highly interactive civic space, accessible to the whole region and within walking distance of all major facilities within central Perth.

The key principles of the development are:

- To deliver an iconic place and world class destination which signifies Perth globally in the 21st century.
- To create a major destination between Barrack Street and William Street which anchors the city along an axis that links Northbridge, the Cultural Centre and the Central Business District (CBD) to the waterfront.
- To contribute to the transformation of the Perth CBD into a vibrant place to live and work and visit with high quality public spaces.
- To establish a transit oriented hub of development in accordance with Directions 2031 that is directly serviced by ferry, bus and train and provides good access for pedestrians, cyclists and emergency vehicles.
- To seamlessly integrate with the surrounding city and foreshore including the

provision of a high quality pedestrian environment that is universally accessible.

- To provide active and contemporary civic space in the form of a continuous waterfront promenade for all the citizens of Perth to enjoy at all times of the year.
- To create a unique and inspirational urban environment through innovative and exemplary architectural design.
- To be an exemplar of leading edge sustainability and design whilst recognising and interpreting the cultural heritage significance of Elizabeth Quay

The goals truly reflect the aims of accessibility and integration whilst recognising the need for diversity, sustainability and the reinforcement of both culture and heritage.

These needs are reflected in the varied building types, their uses and integration with the public spaces – a mixed use development, centred around the landmark Swan Bells, named in honour of Queen Elizabeth II.

The proposed buildings and associated spaces are required to comply with the design guidelines, the Building Code of Australia and the Disability Discrimination Act 1992 and the associated supporting legislation and standards.

The proposals are strategically positioned around the site taking into account issues linked to the climate, shading and cohesion, the completed facilities are projected to include 1,700 residential apartments, 150,000 square metres of office space and 39,000 square metres of retail space.

The Western Australian Premier Colin Barnett and Planning Minister John Day signified the start of development SOD at the Esplanade Reserve on 26 April 2012.

Elizabeth Quay represents the opportunity for architectural design to create an iconic urban destination which will signify Perth in the 21st century and set the benchmark for future developments. Developers are to create architecture and public spaces that are exemplary in design quality at all levels of detail.

Development applications are to demonstrate exemplary, inspirational, innovative and creative designs that display an understanding of the public realm as the key element to the success of the Elizabeth Quay Project.

Elizabeth Quay is an opportunity for developers and designers to embrace innovation where new ideas and approaches are encouraged and variations should be demonstrated to be innovative in design quality and excellence.

The developments should also reflect the resources of the area and the broader Western Australia landscape and it is essential that high quality, locally sourced materials are integrated into the development in recognition of the cultural significance of the site.

Elizabeth Quay, as a total project, is to be exemplar in terms of urban sustainability with sustainable design elements integrated into the architectural design, rather than becoming the dominant feature, "Design that is Sustainable, not Sustainable Design".

The individual buildings are to achieve International Excellence for environmental sustainability through innovative design, construction and management.

Leighton Contractors are delivering the project, in conjunction with subsidiary Broad Construction Services (WA) Pty Ltd, (Leighton Broad) undertaking the inlet and public space development works for Elizabeth Quay which incorporates the construction of a new inlet with associated roads, parks, promenades and an island with connecting bridge.

The contract for Elizabeth Quay infrastructure and enabling/supportive works was awarded to Leighton Contractors in December 2012. The contract was one of a series of important State Government initiatives to develop Perth as a contemporary, liveable and globally competitive city, enhancing its appeal for residents, city workers and visitors alike.

Leighton Broad are carrying out a diverse range of works, both marine and land based, including dredging, piling, major concrete and earthworks that will provide a world class urban landscape surrounding a central water inlet, the scale and profile of this landmark project is being delivered by a very experienced team, under the watchful eyes of more than 15,000 people in the surrounding offices and buildings overlooking the site.

Few other construction sites in Western Australia are more iconic than the transformation of Elizabeth Quay. On completion of the Leighton Broad works, the historic Barrack Street Jetty precinct will have undergone a major facelift and a new ferry terminal will be in operation for commuters traveling to and from South Perth and the city, with new food and beverage outlets, and a rebuild of Perth's well known Florence Hummerston kiosk.

Quay Highlights

- 12,000 m³ of dredging
- 165,000 m³ excavation for the inlet and promenade
- 36,000 m2 of paving
- 16,000 m³ of compacted limestone to create an island
- 1 km diaphragm walls
- 110m footbridge over the inlet
- 500m2 interactive water feature

The dredging of Swan River sediments to create new and extend existing vessel channels around the inlet was one of the significant packages of work that was completed in 2014. This work was carried out in the most sustainable and economical way possible, with minimal impacts to the community and river environment. Leighton Broad was elected as finalists in the 2014 Banksia Awards for the sustainable and economical management of water during this package of work.

This article serves as an introduction to the iconic developments taking place in Perth, Western Australia. The technologies and design proposals utilised are of significant importance to the Professional Engineer. The detailed information may be found on **www.mra.wa.gov.au; www.leightoncontractors.com.au; www.broad.com.au**

PUBLICATIONS

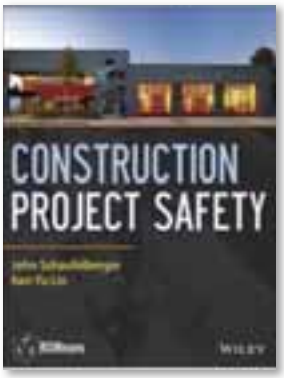
Global Shotcrete/Sprayed Market

The report Shotcrete/Sprayed Concrete Market by Process (Wet & Dry) considers Applications (Underground Construction, Water Retaining Structures, Protective Coatings, Repair Works & Others), Systems & Geography.
The Global Trends and Forecasts to 2018 covers the quantitative and qualitative analysis of Shotcrete/Sprayed Concrete Market. The report has been segmented by processes, by application, by system and by geographical region. The report analyses shotcrete consumption in various applications and covers market demand with respective regions. The report also provides a market overview for the sprayed concrete market.
Riya Neogi
Business Developer Executive
Riya.neogi@marketsandmarkets.com

Schock Bauteile – 5788 December 2014 Digital Edition

The Building Regulations require not only compliance in respect of energy performance of buildings but also documented evidence showing how methods of construction may be carried out to achieve compliance and how certification is provided.
Schock ltd provides the Isokorb range of products that prevent thermal bridging and condensation at critical points where balconies and other cantilever construction connect with the building. The products may be used with a variety of materials and their connection, and benefit from certification by the British Board of Agrément, have LABC registration and are supported by test performance results from the Oxford Institute for Sustainable Development.

Free Construction Project Safety Ebook

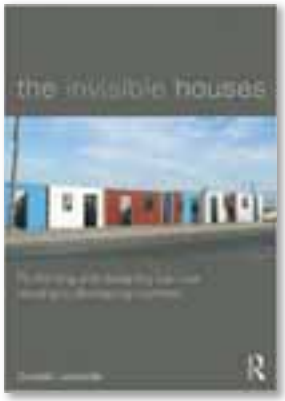


This introduction to construction safety for construction management personnel takes a project-based approach to present potential hazards in construction and their mitigation or prevention. After introducing Accident Prevention Programs and OSHA compliance requirements, the book integrates safety instruction into the building process by following a building project from site construction through interior finish. Reinforcing this applied approach are photographs, drawings, contract documentation, and an online 3D BIM model to help visualize the onsite scenarios.
www.executiveandprofessional.com/free-construction-project-safety-ebook

BIM Focus - BIM issue 2 Nov 2014 digital edition - PageSuite

For this edition I was thrilled to be able to interview Malcolm Taylor, Head of Technical Information for Crossrail Ltd. In the interview he outlines what BIM means for this huge project and praises the BS: 1192 as it set the scene for BIM as we know it today. It was wonderful to listen to his enthusiasm for this huge project and to get a real feel for how BIM is developing within the project.
David Philp of the UK BIM Task Group also makes a welcome return in this edition with an article outlining how BIM can help industry to collaborate and deliver better outcomes.
I'm also really pleased that we have articles from Steve Thompson, Chair of BIM4M2 discussing the support and advice available to enable digital product information to be exchanged with supply chain partners, and Dr Jason Underwood from Salford University providing a detailed overview of the challenges that remain in terms of education and training.
Adam Eardley Digital Marketing Professional

The Invisible Houses



There is an increased interest among architects, urban specialists and design professionals to contribute to solve 'the housing problem' in developing countries. The Invisible Houses takes us on a journey through the slums and informal settlements of South Africa, India, Colombia, Honduras, El Salvador, Cuba, Haiti and many other countries of the global south, revealing the challenges of, and opportunities for, improving the fate of millions of poor families. Stressing the limitations of current approaches to housing development, Gonzalo Lizarralde examines the short, mid, and long term consequences of housing intervention. The book covers the issues of planning, design, infrastructure and project management, explaining the different variables that need to be addressed and the causes of common failures and mistakes, while outlining successful strategies based on embracing a sustained engagement with the complexity of processes that are generally invisible.
Gonzalo Lizarralde Professeur chez Université de Montréal
www.grif.umontreal,ca/invisiblehouses

Upcoming Events & Conferences

Asset management and innovation will have a key role to play in helping water companies to deliver on PR14 objectives. Now in its 3rd year, the annual Water Industry Asset Management Conference has achieved "must-attend" status among senior water industry asset management professionals. The 2015 event takes place on March 3rd at the Hilton Birmingham Metropole.
www.wwt-asset.net

The 8th International Conference of the International Forum on Urbanism (IFoU) True smart & green city? is the title of the 8th conference of the International Forum on Urbanism (IFoU) that will take place from 22–24 June 2015 in the city of Incheon, Republic of Korea.
This inter- and multi-disciplinary conference aims to examine, explore and critically engage issues related to recent insights and advances in the 5 conference topics:

A. True Smart & Green Urban Society
B. True Smart & Green Urban Economies
C. True Smart & Green Urban Planning & Governance
D. True Smart & Green Urban Design & Visions
E. True Smart & Green Urban Technologies & Infrastructure Systems

The conference will encourage both theoretical and practical debates surrounding environmental, economical, and social contexts.

Join Us for the 2015 Annual Conference and Group A Public Comment Hearings
Annual Conference: September 27 – 29, 2015
Public Comment Hearings:
September 30 – October 7, 2015
Long Beach Convention Center
Long Beach, California
www.iccsafe.org

FCIA Education and Committee Action Conference (ECA) 2015

The Adolphus Hotel, Dallas, TX
May 5 - 8, 2015
The ECA is an opportune time to report on activities, share strategies, join a committee and help shape not only the association, but also the industry!
Join us in Dallas, TX this May for our annual Education and Committee Action Conference (ECA). This week long conference will include FM and UL Firestop Exam testing, Committee breakout sessions and educational sessions selected to educate the attendance on a variety of hot topics. Interested in learning more and joining other likeminded individuals on one of the many active industry and association shaping groups?

Oman Fire, Safety and Security Expo (OFSEC 2015)

Oman International Exhibition Centre, Muscat, Sultanate of Oman
September 14-16, 2015
OFSEC 2015 is designed to meet the needs of the local, regional and international markets by linking practitioners, suppliers, distributors and manufacturers from the fire, safety and security industry, representing more than 30 countries, with key decision makers from the government and private sectors. OFSEC is the place to share best practices, tackle challenges and explore breakthrough methods for the integration of safety and security technologies.

SFPE Seeks Presenters for 2015 North America Conference & Expo: Freedom to Design

Proposal Deadline: March 13, 2015
SFPE is now accepting educational presentation abstracts for its two-day North
America Conference & Expo: Freedom to Design. The conference will showcase advanced and cutting-edge practices in fire protection engineering that are used to
protect people, property and the environment from fire.
We invite you to share your knowledge with your peers on the advances in fire protection engineering as a presenter, November 9 – 11, 2015 at the Loews Hotel,
Philadelphia, PA . Presentations must be non-commercial in nature with no specific brand names mentioned. The 2015 Conference Program Committee, co-chaired by
Michael Madden & Michael Venneri, will review all abstracts and make final speaker
selections based on level of innovation, quality, relevance, focus, practical application, and timeliness.
Deadline for abstract submission is March 13, 2015.
Completed abstracts should be sent to Melissa Franco
and include "2015 SFPE Conference & Expo " in the subject line of the email.
If you have any further questions, please feel free to contact Melissa Franco, Marketing & Meetings Manager, at
mfranco@sfpe.org

26th February 2015,
La Mon Hotel, Belfast
http://www.wwt-ni.net/home

MEMBERS

Graham Stead BSc(Hons) P.Eng FCABE, CEnv, MSEE

Graham is a Professional Engineer, Chartered Building Engineer and has been engaged in architecture and engineering since 1969. He has technical qualifications in construction and a degree in building surveying.
His practice, Graham L Stead Associates, was formed in 1981 and provides technological design, defect analysis, reports, inspections and building surveys for architects, engineers, surveyors, the legal profession, and the general public. He has a particular interest in the effects of the built environment on the ecology of rivers and watercourses.
Graham is a Fellow of the Chartered Association of Building Engineers, Chartered Environmentalist, and a Member of the Society of Environmental Engineers.
He has served on the Yorkshire and Humber branch of the Construction Industry Council (CIC) since 2008.

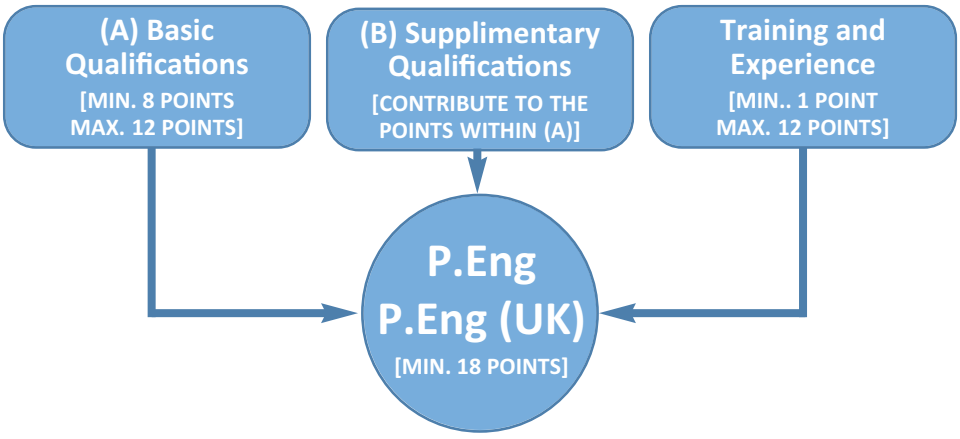
Dr. Achim Paul Eggert VDI PEng (UK) FSPE,

Achim P. Eggert PhD is a senior scientific expert at the VDI. Germany Achim specialised in the area of polymer processing and is today responsible as senior scientific expert in the VDI departments of plastics engineering, nanotechnology and materials engineering.
Additional he is coordinating the activities of the independent initiative Nano-in-Germany.
Achim studied mechanical engineering and chemical engineering in Germany and the UK. He holds a German engineering diploma as well as a master degree in chemical engineering from the University of Wales.
His Ph.D. thesis was focused on polymer processing.
His work within the VDI contributes to the activities of more than 152,000 engineers and natural scientists who are members of the VDI Association of German Engineers, one of the largest technical and scientific associations in Europe. The members share their technological knowledge with others for the general good.
The VDI brings experts together for interdisciplinary dialogues and supports the dissemination of technological knowledge to bring the next generation closer to technology.
The wide range of projects carried out by the VDI seeks to promote young people's interest in technical careers and help them make initial contacts with the professional world of engineers.

New Members

Dr. Achim Paul Eggert PEng (UK) FSPE	GERMANY
Mr Chi Pun Cheung PEng(UK) MSPE	HONG KONG
Mr Wai Tung Tsui PEng(UK) MSPE	HONG KONG
Mr Kwong Ping Cheung PEng(UK) MSPE	HONG KONG
Mr Keng Yong Kevin Song PEng(UK) MSPE	SINGAPORE
Mr Luca Sportelli PEng(UK) MSPE	ITALY
Mr Mariusz Baginski PEng(UK) FSPE	FLORIDA
Mr Graham Lindsey Stead PEng MSPE	UK
Mr Kwok Kheong Teng PEng(UK) MSPE	SINGAPORE
Mr Ace Glen Garcia PEng(UK) MSPE	PHILIPPINES
Mr Wai Tung Leong PEng(UK) MSPE	HONG KONG
Mr Dwaikat Abdelnaser PEng(UK) MSPE	PALESTINE
Mr Yuen Chuen Yu PEng(UK) MSPE	HONG KONG
Mr Imad Yahya Eldurubi PEng(UK) MSPE	UAE
Mr Kai Ki Colbert PEng(UK) MSPE	HONG KONG
Mr David Joseph Courtney PEng MSPE	IRELAND
Mr Chi Kwan Fong PEng(UK) MSPE	UNITED STATES
Mr Jaafar El-Komati PEng(UK) MSPE	LEBANON
Mr Wing Sang Lo PEng(UK) MSPE	HONG KONG
Mr Ching Hsi Lin PEng(UK) MSPE	HONG KONG
Mr Alex Karaiskos PEng MSPE	UK
Mr King Leung Ryan Choi PEng(UK) MSPE	HONG KONG
Mr Wai Kwok Luk PEng(UK) MSPE	HONG KONG
Mr Richard Flynn PEng MSPE	IRELAND
Mr Andrew Leonard Rudgley PEng MSPE	UK

Membership



The achievement of P.Eng/P.Eng(UK) reflects an individual's academic qualification and vocational experience. Full details are contained within the membership guide available on the website:
www.professionalengineer-uk.org

Get involved – sign up a colleague!!

CPN Delves Into Homeowner Fear of Tripped Circuits

A survey commissioned by CPN, the specialist brand of circuit protection products, has revealed that female homeowners in the Midlands, between 18 and 29 years of age, are the most fearful of being plunged into darkness by a tripped circuit breaker when home alone.
With first-time buyers and tenants, students, and young families sitting within this young age bracket, it's no surprise that they topped the list ahead of the most confident group of 40 to 49 year olds. For contractors and facilities managers, this identifies a strong opportunity to provide added-value to homeowners, landlords, and educational institutions by specifying the unique CPN illuminated consumer unit.
The CPN Lumo is fitted with an in-built LED to allow the user to easily reset a tripped circuit breaker without having to fumble in the dark for a torch. This has clear benefits for the convenience and safety of the user.
Jason Hallam, CPN UK Specification Manager, said: "The results of the survey were incredibly interesting; alongside the youngest demographic being the most fearful, a much higher percentage of women said they would be scared if a circuit breaker tripped when home alone. "This backs all of the research we completed during the development of the Lumo which was created to provide added reassurance to vulnerable homeowners who dread finding a light source when the power trips. This is particularly valuable for the visually impaired and for properties where tenants such as students might not be familiar with resetting a circuit breaker to restore the power."
Lumo presents an added value proposition for contractors or facilities managers working with local authorities and housing associations, especially in properties where a replacement consumer unit needs to be fitted in a dark location, such as under the stairs.
Available in three different sizes up to 22 ways, and conforming to BS EN60439-3, the Lumo promises durability through its UK designed components. For added convenience the LED strip is powered by a standard, easy-to-access battery that the owner can simply replace.
email sales@cudis.co.uk or visit www.cudis-led.co.uk for more information.

Letter Flap Alert – Engineered simplicity

When I retired, I found I was spending time at my desk, at the far end of my house, a long way from my front door. I found that I could not hear when mail or other items were delivered through the letter plate, with its hinged flap, in the door. I decided a solution to this small problem was required, but searching the internet revealed nothing helpful.
After some thought, I made the following minor invention; a "letter flap alert"
The "letter flap alert" invention includes:
- an aperture with movable flap to allow passage of mail or items delivered,
- an actuator connected to the flap,
- a switch adjacent to the flap, [which is connected in a circuit to operate the alerting device] and
- an alerting device conveniently located, the arrangement being such that, when items or mail are delivered, the flap is moved, the switch is actuated, and an alert is given.

In my case, the flap is hinged, the actuator is a small bar magnet stuck to the back of the flap at one end with double sided adhesive tape. The switch is a magnetically actuated reed relay, stuck with adhesive tape to the end of the slot in the front door. The circuit is a convenient length of wire with a power supply (a 9-volt dry battery), and the alerting device is an audible sounder (a loud, low-voltage, low current, piezo-electric beeper). When the flap opens, the magnet moves past & very close to the reed relay, so causing its contacts to close. The sounder is located remotely from the front door, & reasonably close to my desk, so that persons delivering mail or other items do not readily hear the alert, which I think they might find off-putting.

Refinements
In an improved version, yet to be implemented, the reed relay will interface the normal front door bell circuit, so that the delivery of mail or other items would sound the doorbell. The interface will provide for switching the relatively high current required by the bell and introduce a delay, of perhaps 30 seconds, so that the person delivering mail or other items would have had time to depart and would not hear the bell sound. In addition, the interface would provide for the bell to ring in a distinctive cadence, so that delivery of mail or other items could be distinguished easily from callers simply pressing the doorbell button.

Eur Ing Dr Hugh Wynne, PEng - Past President

The Society of Professional Engineers goes East

The International nature of the Society was reinforced as David Gibson, Vice President International was invited to participate in activities within Singapore and Western Australia.
Dr Sam Mankeong, President Singapore Institute of Technologists (SIET), in conjunction with the SSTC Institute provide the opportunity for David to meet with fellow Professionals and students seeking to become the "Professional Engineers" of the future.
The event provided the opportunity to meet with CEO, Ms Rose Yeo, Emil Dereinda, Principal/Executive Director, Academic, Mohd Heikal Bin Mohd Yusope, Executive Director, Business Development, of the SSTC Institute. Discussions explored the current state of engineering within Singapore and the role of the Institute in the preparation and support of engineering through the development of academic programmes supported by Dr Sam Mankeong and SIET.

From left to right; Emil Dereinda, David Gibson, Ms Rose Yeo, Mohd Heikal Yusope

Dr Sam Mankeong welcomed the students and presented on the roles of the SPE and SIET and the importance of professional qualifications and the support provided by Professional Bodies in the development and reinforcement of engineering skills and their application within society. He welcomed David and introduced him to the packed audience.

David Gibson and Dr Sam Mankeong

Mr TRC Raja, Immediate Past President, SIET

Presentation of 'Token of Appreciation' by Ms Rose, CEO (SSTC)

David Gibson and Edmund Chow Sek Leong P.Eng(UK)

David delivered to both students and fellow members and presented on the key theme "Engineering – A Risky Business". The presentation provided a reflection of the roles and responsibilities of the Professional Engineer within the development and application processes of engineering. The presentation was interactive and the students were responsive to the concepts of risks and how risk interfaced with their day to day activities both within the academic and work environment.

The presentation concluded with a Question and answer session that enabled the group to raise issues linked to their current activities. A key theme was that of Building Information Modelling (BIM) and it was enlightening to the level of appreciation that existed and this reinforces the societies general activities linked to the BIM process. Presentations are a mix of formal and informal proceedings and it was pleasing to see the student interaction with David following his presentation
The Society thanks SIET and SSTC for the opportunity to participate and promote engineering and looks forward to further activities during the coming year.
SIET; **www.siet.org.sg**, SSTC; **www.sstc.edu.sg**

Herriot Watt University – "Watt Club"

The Society through its collaboration with Trent Global, College of Technology and Management and its Director KK Teng was pleased to participate with the Herriot Watt University Alumni at the Watt Club dinner prior to their graduation the following day.
The evening provided the opportunity to discuss current topics and the academic skills developed and linked to the Herriot Watt programme and those provided by Trent Global.
As a collaborating body Trent Global provides a range of academic programmes and diplomas that support individuals on route to becoming Professional Engineers. The Society looks forward to further developments and activities in Singapore during 2015.
David's next stop was Perth, Western Australia incorporating meetings with RICS Oceania, Kingsley Lunt, Building Surveyor; Milestone Building Code Certifiers, Curtin University; Dr. Andrew Whyte; Head of Civil Engineering and Nicole Vickery; Design Coordinator at Elizabeth Quay.

Curtin University

The Society receives membership requests from individuals from around the world an it was noted that on several occasions their qualifications included those obtained through Curtin University.
Curtin University promotes and delivers in all aspects of engineering and David's meeting with Andrew Whyte, Head of Civil Engineering provided an opportunity to discuss engineering and the role of the Society
www.curtin.edu.au

Elizabeth Quay, Perth, Western Australia

Cities are under continuous pressure to develop or redevelop to meet the needs of the locality and both the permanent and mobile population. Perth as a city is keen to create an "iconic statement" through the Elizabeth Quay development.
The Elizabeth Quay development is a reconnection with nature in that history and the reclamation of land from the sea is to be reversed as the development is to return that land to the sea and encompass this initiative through the creation of new waterways and public spaces surrounded by iconic buildings. The buildings reflecting and restoring both the culture and heritage of the area through the design of the landscape, the buildings and the use of natural and locally sourced materials.
The development is overseen by the Metropolitan Redevelopment Authority and the infrastructure and associated works are carried out by Leighton Contractors and their subsidiary Broad Construction Services (WA) Pty Ltd.
David was privileged to be hosted by Nicole Vickery, Design Coordinator, Broad Construction Services who described the conceptual and technical expectations of the scheme. Emphasis was placed on the return to the sea and the incorporation of the quay into the day to day life of permanent residents and visitors to Perth.
The pursuit of excellence and the accompanying challenges, high achievement and sustainability was key to Nicole's role as Design Coordinator. In many ways the development is pushing at the forefront of technological change in both the materials selected and their integration into the technological process
The development provides an exciting and high level focus for Perth and David would encourage you, as a Professional Engineer, and your colleagues to visit the websites associated with this scheme and experience the measures taken to create an icon of the future.
www.broad.com.au;
www.leightoncontractors.com.au;
www.mra.wa.gov.au

David and Nicole onsite at Elizabeth Quay

Nicole Vickery;
Design Coordinator at Elizabeth Quay.

RICS Oceania

2014 provided the opportunity to discuss developments relating to Building Control Regulation and Certification with Kingsley Lunt, a Building Surveyor at Milestone Building Code Certifiers [www.milestonebc.com.au] and David's visit to Perth enabled him both to meet with Kingsley and take up his invitation to join him at the RICS Oceania Christmas reception. David was welcomed by Kylie Benson RICS Operations and Administration Officer (WA), [www.rics.org.au] and introduced to members of the Western Australia group. An interesting discussion with Kingsley and Peter Gillett, a Director Quantum CQS [www.quantumcqs.com.au] and the routes to membership combined both high expectations and humour.

Kylie Benson RICS Operations and Administration Officer (WA) and Kingsley Lunt, Milestone Building Code Certifiers

A friendly evening providing opportunities to explore current developments, employment and academic requirements and the integration at Local, National and International levels.

Kingsley Lunt and David Gibson

Italian Style for Design Professionals

Iain Wright
Vice President

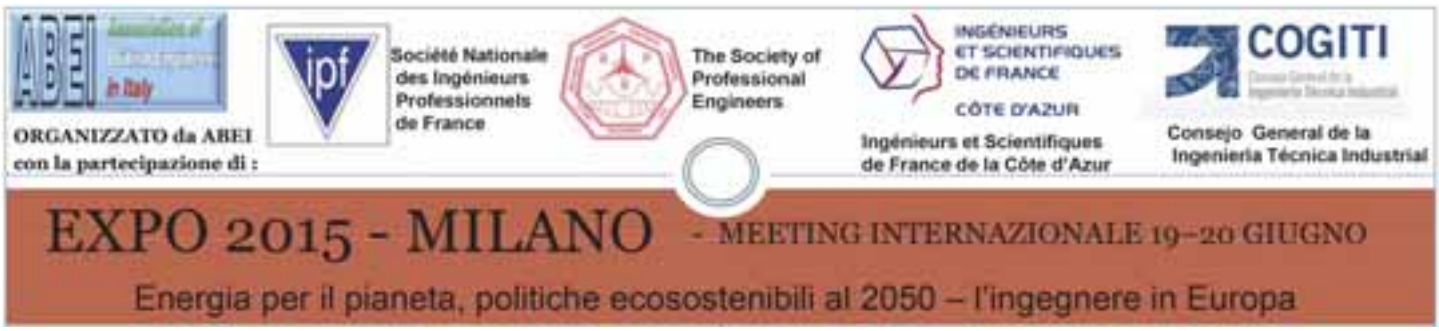
Fortunato Celi Zullo
Director Italian Trade Agency

The membership of the Society represents Professional Engineers from all parts of Society and it was with pleasure that the Society participated in the event provided by the Italian Trade Agency and the Italian Trade Commission. The Society was represented by Iain Wright, Vice President and David Gibson, Vice President International. They were welcomed by Fortunato Celi Zullo, Director, Italian Trade Agency, and thanked for their participation.

The focus of the event was to raise awareness of the goods and services available within Italy and the promotion of both integration and mobility.
The event considered both the UK and Italian construction markets and the roles the professionals have to play in the production of a compliant and sustainable built environment.
Participants included:

- Calietra S.R.L www.calietra.com
- Cianciullo Marmi S.R.L www.cianciullo.it
- Re Manfredi Consorzio Cooperativo Sociale A.R.L c.palladino@remafredi.net
- Ermetika S.R.L. www.ermetika.it/en
- Solarium S.P.A www.test.mtpdevelopment.com
- Tecnores S.R.L. www.tecnores.it

Participation reinforced the Society's work with the Association of British Engineers, Italy and the preparation for the events in conjunction with EXPO 2015 in Milan.



Colombia – Professional Engineering

Professional Engineering is a family and the Society's goal for collaboration and affiliation has been enhanced by the activities of Antony Wedge, Vice President and Liaison Director South America.
Antony visited the offices of the ACIEM (Asociacion Colombiana de Ingenieros Electrica Mecanica) where he presented on the Society and his role, His presentation incorporated a brief history of the SPE and their goals. The discussion with Mr Mauricio Hernandez, their services co-ordinator, explored the possible opportunities for collaboration between the SPE and the ACIEM.

The discussion reinforced the status of the professional engineer and Mr Mauricio was very interested in the potential of a mutual agreement between our professional bodies
His response was positive and he explained that the ACIEM were keen to affiliate with European Professional Bodies especially in England, France and Italy. He acknowledged that the Society was affiliated to or had collaboration agreements with engineering bodies in an international context and in particular the three countries identified.
Mr Mauricio presented on their forthcoming World Congress taking place

in Cartegena in May 2015 and reflected on their literature promoting the three day event. **www.aciemnacional.org**

ACIEM 3 day Assett Management Conference in Cartagena, Colombia - May 2015

As part of the discussion Antony was asked to translate on the discussions and agreed to provide a narrative in Spanish to be forwarded to colleagues who were not so proficient in English.
Further correspondence from his colleague Mr Mauricio Medina, ACIEM Events Director, invited Anthony to their offices to discuss and expand on the discussions of collaboration and their forthcoming World Congress on Maintenance and Asset Management 2015.
Antony was invited to attend and participate in the ACIEM seminar on the "Ethics- Culture in Engineering Faculties".
The speakers were:

- **Jorge Enrique Molina** – a programme engineer in systems and telecommunications from the University of Piloto of Colombia.

Ethics – Culture in Engineering Faculties

- **Carlos Eduardo Navarrete** – an industrial engineer from the University of Santo Tomas.
- **Liliana Maria Zapata** – Commercial Manager from Isagen, an energy provider.

The main speakers set the scene "Ethics-Culture in Engineering Faculties" following which the audience was split up into 10 groups to discuss and address specific ethical scenarios.
Antony's participation group addressed the theme "Discrimination" experienced in the university or work place, and then ways of overcoming or tackling this "Discrimination". - a very interesting and lively debate. The groups presented a summary of their findings to the audience.
Discussions also took place with Jorge Molina, Carlos Navarrete, and Guillermo Sanchez, a member of an ACIEM's Commission, and Antony is to arrange for further exchanges of information to take place.

Discussion with the Sociedad Colombiana de Ingenieros (SCI) has also taken place and a meeting with their President Elect; Ing Diana Maria Espinosa is to be put in place.
As a professional Antony was pleased to meet with Chris Coulson MRICS whose company called "Square Point" in Bogota specialises in shopping centres and offices throughout Colombia.
www.squarepoint.com.co
Further discussions are scheduled to take place in 2015.

SUPPORT YOUR SOCIETY - JOURNAL

News, engineering, technologies; Share it with us!

Please forward articles up to 1000 words to: **david@tdrg.co.uk** (Vice President International)

AEEBC 46th General Assembly – Prague

The Society of Professional Engineers is affiliated to the Association d'experts Européen du Batiment et de la Construction (AEEBC) and was pleased to participate in their 46th General Assembly. The Society was represented by David Gibson, Vice President International.
The AEEBC focus is on the role of building experts and surveyors within a European integration. The development of the EurBE membership card that recognises an individual's academic qualification and skills development has been recognised and 2015 will see the promotion of its use and application.
The dissemination of information to all levels of the academic process will form part of the promotion initiative reinforcing the goals of professional recognition, promoting the European ideals of free movement and the removal of boundaries to benefit society through the reinforcement of best practice.

As a body the AEEBC recognises the broad skills base of the construction professional and engineer and that individuals may form the backbone of a business – people make it happen.
Conservation and the maximisation of resources provided the key focus during discussions on energy use, building performance and the associated certification and the need for greater European uniformity of both systems and their application.
The members and affiliated organisations are involved in a range of research and developmental activities including projects linked to the Da Vinci scheme, Erasmus and Horizon 20/20. The agenda for 2015/16 includes the reinforcement of research and its application within the industry.
Recognition was given to the speed in which Building Information Modelling (BIM) is being adopted throughout Europe and this is to be reinforced by the BIM Conference scheduled for February 12/13 2015 in Barcelona.
The event provided an opportunity for Ing. arch. Jan Fibiger PhD of the Architecture and Building Foundation to present and explain how the development of the "Czechoslavak" into the Czeck Building Centre took place and how the CSVA was founded in 1968 as a state run organisation.
The Architecture and Building Federation was founded in 1990 as a foundation for the development of architecture and building. Activities include lifelong learning and awareness for architecture and building organisation. These include innovation and research aimed at analytical studies, buildings and projects assessment, products assessment, the organisation of fine arts exhibitions and technical presentations.

Ing. arch. Jan Fibiger PhD, Foundation for Architecture and Civil Engineering, Chairman of the Board of Trustees

Foundation for Architecture and Civil Engineering

A very positive Assembly with further activities scheduled for Vienna and Barcelona during 2015.

www.aeebc.org

Existing Members
KEEP IN TOUCH

YOUR REGISTER – YOUR DETAILS
NEW JOURNAL, NEWSLETTERS, COMMUNICATIONS

CHANGE OF EMAIL – LET US KNOW!!!
CHANGE OF ADDRESS – LET US KNOW!!!

Please send your revised details to
enquiries@professionalengineers-uk.org

Collaboration and Affiliation

The Society of Professional Engineers maintains a register that embraces all suitably qualified Professional Engineers of whatever discipline. The goal of the Society is to protect and enhance the status of the Professional Engineer. This is achieved through the promotion of this title throughout the world by establishing, maintaining and strengthening close links with collaborating and affiliated bodies. The process of collaboration and affiliation reinforcing and promoting the highest professional standards within engineering without restriction to any one particular engineering discipline. Collaboration is seen to be the action of working together to fulfil a task and to achieve shared goals with affiliation being the reinforcement of collaboration through formal agreement and memoranda of understanding.

Affiliation and Collaboration with Professional Bodies and Organisations

Association d'experts du bâtiment et de la construction Association of European Building Surveyors and Construction Experts
Secretariat: Mr Martin Russell-Croucher Dip QS CertEd MRICS
C/O The Royal Institution of Chartered Surveyors, 12 Great George Street, Parliament Square, London SW1P 3AD
Website: www.aeebc.org

Association of British Engineers in Italy
President: Prof. Luciano Mirarchi C.Eng MIET MSE
International Coordinator Dott. Eur Ing Saverio Iuzzolini CEnv(UK) MSEE(UK) MIET(UK) IPF(F) P.Eng(UK) FSPE MPM FAAPM CIPM(USA)
Email: ingis@fastwebnet.it
Via Padova, 127 - 20127 Milano, Italy
Tel/Fax: +39.026698439811
Website: www.theabei.eu

BIM Academy
Ignasi Pérez Arnal
c/Córsega 603, 2º 2ª
08025 Barcelona
ignasiperezarnal@bimacademy.es
www.bimacademy.es

The Chartered Association of Building Engineers
Lutyens House, Billing Brook Road, Weston Favell,
Northampton NN3 8NW
Tel: (01604) 404121
Fax: (01604) 784220
Website: www.cbuilde.com

The China Civil Engineering Society (CCES)
Zhang Junqing, Director
Dept of International Contact, PO BOX 2500, 9, San Li He Rd, Beijing 100835, China
Tel/Fax: 00 86 10 58933071
Website: www.cces.net.cn

Design, Technology and Management Society International
Prof Dr J Potgieter Council Member
Company Limited by Guarantee
P O Box 1126, Orkney 2620, North West Province, South Africa
Tel: +27 (0)725016565
Fax: +27 (0)866997173
E-mail: info@dtmsi.co.za
Website: www.dtmsi.org

Flaming 21 Limited
Ir Dr.Teddy NG (Construction Management & Feng Shui Consultancy & Training Services)
15th Floor, Ka Wah Bank Centre,
232 Des Voeux Road Central,
HONG KONG SAR
Tel: (852) 9016 0488
Email: flaming21@hotmail.com
Website: www.flaming21.com

HCL International Ltd
Joyce Lee, Flat A3, 9/F, Forda Industrial Building, TAI LEE Street, Yuen Long, N.T, Hong Kong
DL: (852) 2148 2186
T: (852) 2148 2186
F: (852) 2148 2986
Web : http://www.hcl.hk
http://www.hkioe.hk

The Institution of Diagnostic Engineers
Project Building, 581A Leeds Road, Outwood, Wakefield
West Yorkshire WF1 2JL
Tel: 44(0)1924821000
Website: www.diagnosticengineers.org

National Society of Professional Engineers
1420 King Street, Alexandria, Virginia 22314 - 2794, United States of America
Tel: 001 (703) 684 2800
Fax: 001 (703) 836 4875
Website: www.nspe.org

SIET
Singapore Institute of Engineering Technologists
Dr Sam Man Keong
Clementi Central PO Box 103,
Singapore 911204
Email: admin@siet.org.sg
Website: www.siet.org.sg

Societe Nationale des Ingenieurs Professionnels de France (SNIPF) or (IPF)
Charles Tondeur
3 rue Fortia, BP 60004, 13484 Marseille, Cedex 20, France
Tel: 04 91 59 90 14
Fax: 04 91 33 13 56
Email: snipf2@wanadoo.fr
Website: www.snipf.org

Trent Global College of Technology & Management
12 Prince Edward Road #06-13/14
Bestway Building Podium B
Singapore 079212
Tele: +65 6372 1464 / 6372 1465
Fax: +65 63721460
Email: info@trentglobal.com
Website: www.trentglobal.com

SSTC School for Further Education
9 Penang Road
#09-03 Park Mall,
Singapore 238459
E-mail: info@sstc.edu.sg
www.sstc.edu.sg

WOBO
World Organisation of Building Officials
Governor: Mr David Gibson
Email: david@tdrg.co.uk
Website: www.wobo-un.org

SPE welcomes fellow Professional Bodies, Academic Institutions and Organisations as collaborating bodies

The Society of Professional Engineers

In collaboration and in support of the BIM Academy

BIM EUROPEAN SUMMIT
Barcelona 2015

Barcelona, Spain
Venue: World Trade Centre
12 – 13 February 2015

Edif. Este, Moll de Barcelona, s/n,1ª planta,
08039 Barcelona, Spain

Programme

12 February 2015

8.30 – 9.30	Registration
9.30 – 19.00	Presentations and Activities
20.00	Gala Dinner

13 February 2015

8.30 – 14.00	Presentations and Activities
14.00	Closing

Contact details: www.europeanbimsummit.com; www.bimacademy.es