

Science centres - a global movement



Playing the Ibn Battuta touch screen game in the Sultans of Science exhibition made by MTE Studios in the MTN Science Centre, Cape Town, South Africa

Depending a little bit on how you wish to define a science centre, the world today contains about 3000 of them. Over my quarter-of-a-century-long career in this field, I have personally had a chance to visit over 400 of them, often talking to their senior leadership and trustees. What I have found is that they are strikingly similar all over the world. They are usually inhabited by enthusiastic people, they are serious about experiential learning and their visitors, their stakeholders are more or less the same (the scientific community, the education sector, local and national government, private enterprises) even if the individual mix varies, they depend on diverse sources of income and usually have to compete for their resources, and they all believe in the importance of science and knowledge. For us Europeans, I think it is important to realise the diversity of our field across the world. The majority of science centres and museums in the world are actually outside Europe! We have a lot to learn and a lot to give. Our co-operation can

range from information exchange, partnerships in exhibitions and programmes to physical circulation of exhibitions in various parts of the world. I would personally encourage all Ecsite members to become an Associate Member in one of the other regional science centre networks to open up communication and information exchange.

I welcome you to this special issue of the Ecsite Newsletter, giving you a flavour of the global science centre community. Read and enjoy!



Dr Per-Edvin Persson
Director, Heureka, the Finnish Science Centre
Guest editor of this issue of the Ecsite Newsletter

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Professor Mike Bruton is Director of Imagineering at MTE Studios. The founder of the MTN Sciencentre in Cape Town and the Old Mutual-MTN Sciencentre in Umhlanga, he has played a role in the establishment of numerous other science centres and museums in South Africa and the Middle East. He is the chair of the Local Organising Committee and the International Programme Committee of the 6th Science Centre World Congress.

iBuyambo ye Afrika - a science centre renaissance in Africa?

Africa is a huge continent, over 30.2 million km² in area divided into 61 countries and dependencies with a combined population of over one billion people. It has 14.72% of the world's population (but only 1.2% of its science centres). According to UNESCO, over 2000 languages are spoken in Africa, and it is the most linguistically and culturally diverse continent in the world. Nigeria alone has over 250 languages! Africa is widely accepted as the cradle of humankind, and it is the oldest inhabited territory on Earth. Some of the greatest early civilizations, and the most influential learning institutions in the world, existed in Africa, and the roots of many fields of science and technology (geometry, trigonometry, navigation, cartography, astronomy, metallurgy, maritime engineering, animal domestication, herbal medicine) can be traced to the continent. Indigenous knowledge systems developed in Africa lead to substantial improvements in the quality of life of its peoples, and continue to provide ideas and opportunities for modern science. Furthermore, Africa is on the rise. Foreign investment has quadrupled since 2000. In 2006, foreign investment reached \$48 billion, overtaking foreign

aid for the first time, according to the OECD. China alone has injected over \$106 billion into Africa over the past 10 years. The IMF puts Africa's average annual growth for 2004 to 2008 at more than 6% - better than that of most developed economies, and predicts that the continent will buck the global recessionary trend and grow at 3.3% this year. An article published by Oxford economist Paul Collier in the online journal *allAfrica* in February 2010 noted that Africa now offers the world's highest return on investment. Stephen Hayes, CEO of the Corporate Council for Africa, states that, "Africa offers more opportunity than any place in the world." The successful staging of the largest sporting event in the world, the FIFA World Cup, in South Africa in mid-2010 further demonstrates that Africa has got its act together. Africa would therefore appear to be prime territory for the establishment of a network of interactive science centres: cash is starting to flow, the economy is moving away from commodities towards technology-based services and information, yet there are still severe educational imbalances to overcome. Furthermore, the *modus operandi* of science centres exactly matches Africa's developmental needs: they offer cost-effective ways of strengthening the science and technology culture, and their relatively language-free exhibits, and hands-on, experiential teaching methods, are ideally suited to educationally-disadvantaged but smart learners in multilingual societies. Science centres are THE most efficient tool for demystifying science and making it accessible to learners of all ages and cultures - they belong on the African continent. There is no doubt that a strong, collaborative network of science centres in Africa would release the potential of millions of young people, and promote science awareness on a continent that is rapidly entering the information age. However, the stark reality is that science centres, which I define as 'science education facilities that primarily use interactive techniques for teaching and learning', are poorly established on the African continent, being confined almost exclusively to the extreme north and south. Using the above definition, there are 21 science centres in South Africa, one in Mauritius, two in



Hand-powered water pump on display in the MTN Sciencentre, Cape Town, South Africa

Tunisia, and four in Egypt, a total of 28. A science centre that was previously established in Gaborone, Botswana, has recently closed down. Namibia has a science centre in an advanced stage of planning, and an array of traveling exhibits, but no permanent facility as yet. Although career centres and various kinds of educational centres exist throughout Africa, we are not aware of any other permanently established interactive science centres. Of course, Africa has many traditional museums, over 2 000 by some counts, of which more than 400 are in South Africa. Some of them, in Egypt, Kenya, South Africa and elsewhere, are comparable with the best in the world, and they play a very important role in non-formal education. An increasing number of these museums have interactive displays, but their exhibits are predominantly artifact-based. These museums nevertheless have tremendous potential as seeds for the development of a strong interactive science centre network on the continent. There is, nevertheless, a clear imbalance between the development of science centres in Africa and in the rest of the world. Surely the African community, and the developed science centre networks in the northern and southern hemispheres, should not allow this situation to persist? Are there not exciting opportunities to assist with the development of science centres in Africa on a win: win basis? We think so. Of course, there are many examples of ways in which non-African science networks and countries have already assisted with the development of science centres in Africa and surrounding islands. India established the Rajiv Gandhi Science Centre in Port Louis, Mauritius. The NAMES network, which covers the circum-Mediterranean region, is





Two young visitors at the MTN Sciencentre, Cape Town, South Africa, looking at the 'Perpetual Flute' exhibit in the 'Sultans of Science' exhibition made by MTE Studios

promoting science centre development in North Africa. Ecsite, ASPAC, RedPOP, NCSM and ASTC, as well as individual science centres in these regions, have all assisted with the development of science centres, and their teaching programmes, in the SAASTEC region of southern Africa. The hosting of the 6th Science Centre World Congress (6SCWC) in Cape Town, South Africa, in September 2011 will be a tremendous boost for science centre development in Africa. The 6SCWC will bring leading science centre and museum experts to Africa, and focus international attention on the need to invest in science centre development on the African continent.



'Looking through the Universal Astrolabe in the 'Sultans of Science' exhibition made by MTE Studios in the MTN Sciencentre, Cape Town, South Africa'

The theme of the congress, **Science across Cultures**, addresses the role that science centres should play in recognizing that science is an integral component of our universal human culture. It is not an endeavour that arose out of one culture, nor do its impacts affect only one culture. This theme also highlights the multi-cultural roots of science and technology and recognizes the value, to all humankind, of indigenous knowledge systems (IKS). The Congress has four sub themes: Science as Part of Culture, Empowerment through Science, Recognizing the Multi-Cultural Roots of Science and Technology, and Recognizing the Global Value of Indigenous

Knowledge Systems, all of which have strong relevance to the African condition. In addition, a pre-congress workshop will focus on developing the capacity of African science centre personnel. The organisers of the 6SCWC are going to considerable lengths to encourage professionals in the museum, university, educational NGO, heritage institution and

government sectors throughout Africa to attend the congress, as we see them as key role players in the development of an African science centre network. Furthermore, the annual SAASTEC conference in November 2010 in Saldanha, South Africa, is being used as a 'dummy run' for African delegates to present papers in preparation for the 6SCWC. Workshops on how to design and make a presentation at a world congress have already been held in South Africa under the auspices of the South African Agency for Science and Technology Advancement (SAASTA). South Africa's national science festival, SciFest Africa, which will be held in Grahamstown from 25-27 March 2011, has also adopted the theme 'Science across Cultures', which will further prepare African delegates to present on this theme at the World Congress.

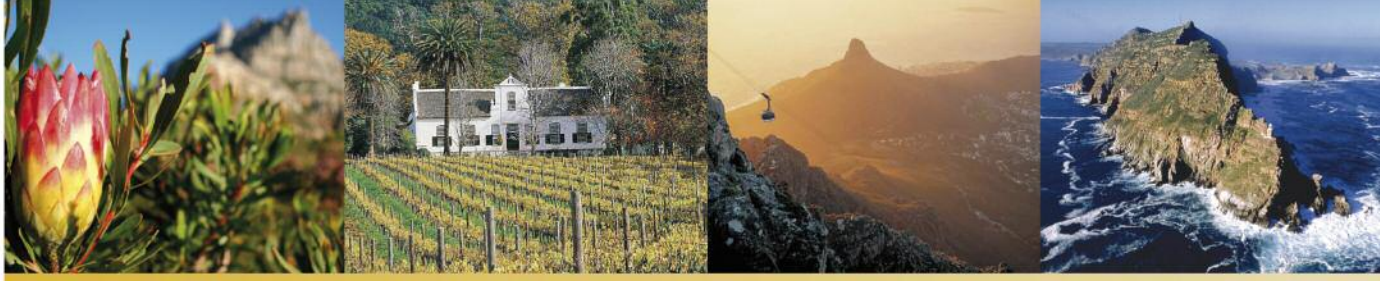
iBuyambo ye Afrika means 'a rebirth in Africa'. Let us make the decade from 2010-2020 a period during which the great learning institutions that Africa first brought to the world are reborn, for the benefit of all African people!

YOU can make a difference - we look forward to working with you.

Find out more about the 6th Science Centre World Congress: www.6scwc.org

How can Ecsite members help to develop the science centre network in Africa, before and after the 6SCWC?

- Be cognisant of the commitments that all delegates to the 5SCWC in Toronto made, as stated in the Toronto Declaration, inter alia, 'We will use our collective expertise and experience in helping to expand the activities of our sector to places and communities where science centres are needed and wanted but not yet established.'
- Attend the Second General Assembly of NAMES in Kuwait on 16 and 17 October 2010 to promote science centre development in North Africa (www.names2010.org)
- Attend the annual SAASTEC conference in Saldanha near Cape Town on 22-24 November 2010 to promote science centre development in sub-Saharan Africa (www.saaastec.org.za)
- Attend and participate fully in the 6th Science Centre World Congress (www.6scwc.org), its pre-congress workshop and its post-congress excursions, to promote science centre development in Africa. The deadline for session proposals is 31 August 2010.
- Exhibit your products and services at the 6SCWC
- Stay in Africa after the 6SCWC, visit African countries and assess their needs
- Establish contact with existing African science centres and develop twinning or partnership agreements
- Identify a country or region in Africa in which you would like to support science centre development. Through contact with the nearest regional network (SAASTEC or NAMES), and existing educational institutions (universities, colleges, museums, educational NGOs, government departments), initiate the process of starting a science centre network in that region
- Consider donating pre-used exhibits to science centres in Africa
- Offer your educational aids and training services to African science centre staff
- Establish foreign aid or UNESCO programmes from your country that allow you to cover the cost of assisting with the development of science centres in chosen African countries
- Invite African science centre developers and staff to your science centre for in-service training and exposure to your education and staff development programmes
- Subsidize attendance of African science centre delegates and developers at the annual Ecsite conference.



6th SCIENCE CENTRE WORLD CONGRESS

4 - 8 SEPTEMBER 2011
CAPE TOWN, SOUTH AFRICA

Science Across Cultures

Namkelekile e Afrika
You are welcome in Africa

Science Across Cultures



The 6th Science Centre World Congress will be held in Cape Town, South Africa, 4-8 September 2011. Enjoy stimulating congress sessions, challenging workshops and lively debates. And enjoy all that Cape Town and South Africa have to offer - whale watching, wine tasting, a unique floral kingdom, big game safaris, beautiful beaches, unparalleled scenic beauty, and a friendly and diverse culture.

Your hosts the Cape Town Science Centre, the Southern African Association of Science and Technology Centres, and the North Africa and Middle East Science Centers Network look forward to welcoming you to Cape Town.

Taking place at the Cape Town International Convention Centre, with the theme "Science Across Cultures", the 6th Science Centre World Congress will encourage reconciliation between different cultures and a greater appreciation of the role that science centres can play in highlighting each culture's unique contributions to science, technology and science education.

Contact info@6scwc.org with any questions.
Visit the congress website at www.6scwc.org

Sylvia Neuman-Samuel is the general director of the MUTEc, the Technological Museum of the Mexican Federal Electricity Commission. Here, she shares the story of the museum and gives some ideas of the types of opportunities that international science centres and museums can take to collaborate with Latin America.

Mexican experiences of international exchange

The Federal Electricity Commission had a 51,000m² warehouse called Dolores, inside the biggest park in Mexico City, in the second section of the ancient forest of Chapultepec. This is where the Technological Museum of CFE opened its doors on November 20, 1970. Built in Mexico City as a pioneer in Mexico and Latin America, this was the first interactive museum, specialized in the electric power industry.

Its mission today is to be an interactive educational centre to reveal and popularise scientific and technological progress, therefore contributing to integrate education and development for people - mainly children and youngsters - to use their perception, emotions and experience to encourage and boost their imagination and innovation. Thanks to the prestige and support from an electricity company like ours, entry to the MUTEc has been free for 40 years, for all age groups; giving the opportunity to serve a population with limited resources.

Many multidisciplinary events have taken place, including the First International Astronautical Congress; headquarters of the World Chess Championship and two debates between presidential candidates. Spark and Prisma, science children's magazines were created and designed at the Museum. The Program Science Sunday Conferences with the Mexican Academy of Sciences began in December 1982 and have since spread to 500 sites around the country.

We are part of the Mexican Association of Museums and Centres of Science and Technology



(AMMCCyT), since 1996. We are members of ASTC (the Association of Science-Technology Centers based in North America) and Red-POP (the Network for popularization of Science and Technology for Latin America and the Caribbean). We have been working with the European network Ecsite since it began. Back in 2008, during the XI National Colloquium of AMMCCyT entitled "Earth today: Our future", we had the chance to organise and plan an environmental exhibit, in a workshop run by Walter Staveloz, Director of International Relations for ASTC. He inspired us to fulfil the needs and learning aims of our diverse audience. He underlined that impact on our community shows that our museums and science centres are worth it and that is only possible when we generate emotional experiences to catch their attention.

At the time, Alan Leshner (Chief Executive Officer for the American Association for the Advancement of Science and Executive Publisher of Science magazine) gave a presentation entitled "Science and Technology for an Earth in danger", where he put science in a global context, underlining the importance of public engagement involved in the solutions, since "scientists don't change the behaviour of people but museums can".

Several generations of Mexicans have seen MUTEc's founding in the 70s, its development in the 80s until it remained static for some years, and from the second half of 2000, its transformation became apparent, through the efforts of Alfredo Elias Ayub, the current director of the Federal Electricity Commission. When MUTEc's exhibition space was remodeled, the subjects were diversified with a contemporary approach, interactive and international exhibits were mounted to provide a scientific and cultural sight of advancements in science and technology that improved educational provision for the new century.

Among the signs of global cooperation, we can mention our permanent exchange with La Cité



MUTEc's collaboration with Heureka, the Finnish Science Center, led to this music exhibit coming to Mexico

des Sciences et l'Industrie of France; Heureka, the Finnish Science Center; Clear Channel Exhibitions, Evergreen Exhibitions, NASA and the National Science Teachers Association (NSTA) from USA; and Pfizer Inc. We also have the international support of the French Ministry of Foreign Affairs, Mad Science Spain, the European Space Agency, Science Alive, Science Center New Zealand, the National Directorate of the Antarctic, DNA, the Directorate General of Cultural Affairs, the Ministry of Foreign Affairs, International Trade and Worship, the Argentina's National University of Tres de Febrero and the Argentine Antarctic Program; Jerusalem Hebrew University of Israel; United Nations, UNESCO, the International Federation of Human Rights, the embassies of the Russian Federation, People's Republic of China, Republics of Korea, Argentina; and very soon, Switzerland and Spain; the French artist Jean-Marc Philippe creator of KEO Project and the in-site artist Andrea Juan, curator of the SOUTH POLAR, ART IN ANTARCTICA; all for the implementation of temporary exhibitions in MUTEc. Mexican museums and interactive centres as well as academic (UNAM and IPN) and other institutions are working in coordination with us in different projects, at the time.

The MUTEc, in its efforts to popularise a wide range of scientific concepts, technological and cultural, has provided an opportunity for more than a million visitors per year to interact with the knowledge of scientific and technological progress worldwide, with elements to understand information in a didactic, interactive, playful and experimental way.

Science centres around the world have many challenges in common with Europe's science centre community. However, it is not every science centre which is hit by first an earthquake and then a typhoon, as Philippine Science Centrum executive director May Pagsinohin describes.

Philippine Science Centrum's 20 Year-Journey

After 20 years of operations, the Philippine Science Centrum (PSC) is still committed to pursue its mission by providing quality and exciting venue for science education and promotion and to operate despite tough 'adversities' that come along the way. The PSC has survived an earthquake, lack of government funding, years of financial crisis and donor-fatigue, and just recently, a flash flood brought by a typhoon. In each and every adversity, the PSC has recovered



Young students and parents trying the 'Finger Tinger' exhibit

and continued to get the job done with more zest and determination. In between these challenges are accomplishments that truly overshadow the obstacles. The science centre and its travelling exhibitions have



Seminar workshop for science teachers

now welcomed 5.2 million visitors over 20 years. The travelling exhibitions have visited 120 provincial capitals, municipalities and cities. The PSC hosts 300 interactive exhibits and travelling exhibitions and has fabricated 400 interactive exhibits for various entities, local and international. 5,000 teachers were trained in 'teaching science through interactive & integrative approaches' workshop, and the PSC has been instrumental in the creation and establishment of 9 Regional Science Centruns all over the country. A lot more could be listed but allow me to proceed by taking you on PSC's 20-year journey...

20 YEARS OF UPS AND DOWNS

The Philippine Science Centrum is managed and operated by a local private foundation: Philippine Foundation for Science and Technology (PFST). In addressing the government's call for private sector assistance in popularising science and technology among Filipinos, on February 1, 1990, the Philippine Foundation for Science and Technology launched the Philippine Science Centrum as the first science centre in the country. With a meagre budget of 1.8 million pesos (€400 000) solicited from various sponsors and donors, PSC's first home at the 5th level of the Manila Film Center in Pasay City was just about 800m² with 38 locally-fabricated interactive science exhibits. Doves of people from all walks of life flocked to the newly-opened facility.

A major setback came in July 16, 1990 in the form of an earthquake. The Manila Film Center suffered structural damages during the earthquake (6.5 on the Richter scale in Metro Manila; 7.1 in Northern Philippines including Baguio City) and the building was declared unfit for occupancy. The PSC's momentum stood still with its facility closed.

The major buzz and impact made by the PSC during its first few months of operation did not go unnoticed by the Department of Science and Technology. The department offered one of its annex buildings at the UP-Manila Compound, Manila for PSC's new temporary home. In this location, the foundation rebuilt the PSC facility and made it a premier educational field trip destination among students and teachers. During PSC's stay in its second temporary home, lobbying for government support through the Senate and Congress were intensified. Bills for the creation and establishment of a permanent home for the Philippine Science Centrum were drafted and filed. Sadly, none of these bills even reached at the 'appropriations committee level' of both houses. While trying to get a bill passed for a permanent home, partnerships with several government agencies were forged to secure an idle land for the PSC. These agencies were benevolent in giving parcels of land. There was just one problem - the lots were teeming with illegal settlers! A big chunk of

cash is needed to evict, evacuate and relocate these illegal settlers such that PFST's efforts in getting a land for the PSC have also stood still.

The second major setback in PSC's museum operations came in 2003 when its occupancy lease was not renewed for another year. PSC's transfer to another temporary location was imminent. PSC was to be homeless unless another place was secured. The PFST Board and the Management Team doubled its efforts in getting another temporary home for the Science Centrum. By the 1st quarter of 2004, PFST found the third temporary home of PSC in Riverbanks Center, Marikina City. The Riverbanks Development Corporation (RDC) and PFST forged a rental agreement for the 2,800m² space where the RDC received 40% of gate receipts.

After months of building renovation and exhibit installation, the Philippine Science Centrum re-opened to the public on October 2004. Eventually, more good things came with the transfer. The exhibition hall is bigger and more spacious allowing for more and new exhibits to be featured. More visitors can be accommodated in one timeslot. Parking space for tour buses is no longer a concern. By designing and creating a more colourful and playful environment and featuring new and exciting exhibits, the PSC has become a favourite venue for television shoots on their educational TV programs giving 'free' advertising and commercial exposures. Sponsors and partnerships with various stakeholders have started to come in.

Everything was doing well and projections were being met beyond expectations until the fateful September 26, 2009 flooding from typhoon Ondoy submerged the Philippine Science Centrum and the rest of the Riverbanks Center into 9-foot deep muddy waters for several hours. It was a disaster! However gloomy that 15-hour ordeal was, a ray of light was still experienced as the five PFST personnel trapped inside the centre miraculously found a way to unlock the main entrance and swam against rushing waters to higher grounds.

A day after the flood, almost all PFST/PSC personnel voluntarily reported to work to start the challenging task of restoration. Upon learning of PSC's fate,

benevolent friends and partners donated cash or in-kind items for the PSC. After assessing the real damage and estimating the needed amount for full restoration, a fundraising project was conceived, collecting money and in-kind donations with a target of 9 million pesos.

After three weeks of clearing the entire facility and exhibits of mud and silt, sorting out recoverable materials/documents and classifying exhibits for minor or major repair, the road to rehabilitation, restoration and re-building began. The PSC achieved the target of re-opening on November 2 2009 featuring 50% of the exhibit collection restored and complemented by the exhibits from PSC's travelling exhibitions. By December 2009, 80% of the pre-ONDoy exhibit collection was restored.



'Feel the Shake' exhibit

By PSC's 20th Anniversary celebration held last February 10, 2010, the restored exhibit collection already reached 90%. Deeply committed to address

environment-related phenomena, two exhibit-prototypes were featured during the event: the 'Feel the Shake' Bench - simulating the horizontal movement of an earthquake and the 'Wind Zone' exhibit - simulating strong winds brought by typhoons with wind speed of 40mph.

Last June, the 9 million peso target was still short by



3.5 million pesos and yet the PSC has already fully recovered and has even added new exhibits. The full recovery of the Philippine Science Centrum was

achieved with the assistance of generous local and international sponsors and donors.

Kudos to all!



Through PSC's traveling exhibitions, Filipino students and children in the provinces got the chance to experience the 'interactive science exhibits'

HOW HAS PSC SURVIVED FOR 20 YEARS?

The PSC continued to subsist through its gate receipts and proceeds from several income-generating activities. Among its two major 'profitable' endeavours are its exhibit development and fabrication projects and the travelling exhibitions. Through the years, PSC's exhibit development and fabrication group has developed its expertise in interactive exhibit conceptualization, design, prototyping and fabrication. Some of its engineers were trained at the Exploratorium in California.

About 95% of PSC's current collection of 150 interactive science modules and all exhibits of the 4 travelling exhibitions were developed and produced 'in-house'. Proceeds from exhibit fabrication contracts with local museums, provincial science centres and a handful of international science museums like the Oil and Gas Development Center of Brunei, Newcastle Regional Center of Australia, BP Koirala Museum of Nepal and the National Science Center of Malaysia provide steady income.

The PSC travelling exhibition, on the other hand, was developed in 1995 to address the growing clamour from the provinces to experience the 'edutainment' brought about by the science centrum.

The creation of mobile exhibits was also done to bridge the gap of distance among the country's numerous islands, address the high cost of educational field trip expenses of students going to Manila and to widen PSC's reach to the regions.

Even if there is no regular government financial allocation for the PSC operations, some government agencies are still very supportive of PSC's programs and projects. Among the most benevolent agencies were the Department of Science

and Technology, Philippine Amusement Gaming Corporation, Department of Education, National Commission on Culture and the Arts, etc. Through the years, these government agencies have extended financial grants when the need arises or when PFST calls for assistance, especially, for PFST-initiated projects.

The Philippine Foundation for Science and Technology will likewise 'resurrect' the Philippine Science Centrum time and again for any 'fall' it will encounter in achieving its mission. An earthquake, financial crises, a typhoon and flood have been weathered - what else cannot be overcome?



PFST Executive Director, Ms. May Pagsinohin and PFST Chairman, Engr. Meneleo Carlos receive the 1st GAWAD LIDER Exemplary Leadership Award from Philippines' Vice President Noli de Castro



From left to right: Photo taken of the flood by PFST staff after swimming to higher grounds, PSC signage damaged, the 'Sympathetic Swing' exhibit (green) saved the staff from the rising waters, staff doing the clean-up drive

Scitech in Perth, Western Australia has a long history of creating and marketing exhibitions that appeal to the Asia Pacific region. Scitech's Manager of Travelling Exhibitions, Gary Foxton gives us an insight into this diverse market.

Asia-Pacific: Have exhibit, will travel

Perth, Western Australia is one of the most isolated capital cities in the world, geographically closer to Singapore than Sydney, it comes as no surprise that its local science centre, known as Scitech, has strong and productive links with its counterparts across the Asia Pacific region. Open since 1988, Scitech started its foray into the international travelling exhibition market in 1995 when its "Sports" exhibition was exhibited at the Hong Kong Science Centre. Since then the exhibition has also travelled to New Zealand and Singapore, as well as further afield to Dubai and Jeddah.

New Zealand has been a primary receiver of Scitech-built exhibitions, taking no less than eight exhibitions, with "Special Effects" being especially popular and returning twice in a 10 year period. In 2008, Kuala Lumpur also became a regular customer of Scitech, renting both its "Speed" and "Space" exhibitions in

2008; it's all down to the exhibitions' simple, but broad appeal.

Scitech's main aims in developing exhibitions are interactivity, scientific integrity, fun, and simple graphics. By integrating these key aspects into all our exhibitions, we provide visitors with an opportunity to become actively engaged in each exhibit.

Developing science exhibitions isn't about providing a passive experience. You can't underestimate the hands-on aspect to creating a successful exhibition – both for domestic and international markets.

We want visitors to touch and feel their way around the science content, which, by the way, is thoroughly checked for its integrity and veracity. Presenting science content in an exciting and enjoyable way doesn't mean it has to be dumbed-down.

One major challenge Scitech has met in developing exhibitions for the Asia Pacific market is overcoming the language barrier. All Scitech exhibitions are initially developed with an English-speaking audience in mind, so when we start negotiations with a would-be host centre whose visitors may not speak English, language is a vital adjustment that has to be addressed as part of the process.

We identify early on in the negotiations which languages need to be included in the exhibition presentation. This is not just for visual purposes such as reading exhibit panels, but also any aural requirements for an exhibit that includes recorded audio content. For example, when Mission Earthling went into Hong Kong in 2006, we needed to modify the exhibition panels so the information was presented in three languages – English, Cantonese and the Standard Mandarin dialect known as Putonghua. To do this the English text and audio were translated in Hong Kong and then emailed back to Perth where it was incorporated into the exhibition.

Beyond the language barriers, there are other,

more subtle challenges to establishing productive and subsequently, fruitful relationships with science centres in the Asia Pacific region. It's all about developing relationships and networks, so both sides can understand and appreciate what their travelling exhibition has to offer the potential host centre. The language issue is the obvious challenge, but the host centre's unique visitor market, cultural and educational needs also have to be taken into consideration. This sort of thing takes time, effort and patience, as you need to get to know each other, not just as organisations, but also as individuals, so obstacles that may arise during the course of negotiations, or during the exhibition's season can be tackled with a sense of trust and faith.

One of our greatest challenges is breaching misconceptions and preconceptions which can prevent the hire or exchange of each other's exhibitions. Scitech is extremely proud of the exhibitions it creates, as is the case for many other science centres, however, taken too far, pride can be a problem if it hampers centres from being able to change their exhibition offerings regularly.

If someone came to you and said they were going to reinvent the wheel, you would think they were mad. Why change something that works perfectly well and has a proven track record? The same applies for science centre exhibitions. We don't all need to be producing exhibitions about the human body if an established centre has one available for hire which has solid science behind it and a proven visitor appeal.

Contracts for hiring Scitech exhibitions for periods of more than three months are negotiated with host venues on an individual basis to ensure all requirements are fulfilled. An important aspect of Scitech's experience in this market has been its recognition that wherever possible, opportunities for inserting local content into the exhibition are provided. Being able to add local content to an exhibition



Scitech's Space exhibition has been to Kuala Lumpur as well as Portugal



Mission Earthling went into Hong Kong in 2006, and was presented in three languages - English, Cantonese and the Standard Mandarin dialect known as Putonghua.

makes it much more attractive – not just for the Asia Pacific region, but for any region – because it allows a host centre to put its own stamp on it, thereby enabling visitors to experience the science embedded within the exhibition from a local perspective. We've managed to do this quite simply with an exhibition we have on the Scitech floor at the moment, called 'Climate Change: our future, our choice'.

This exhibition was developed in partnership with the Australian Museum, and first appeared in Australia's domestic market in Sydney. One exhibit shows how global warming can have an impact on rising sea levels, and in the Sydney version of the exhibition it demonstrated this from the perspective of the New South Wales metropolitan coastline. Obviously, visitors to Scitech in Perth would be more interested in the potential flooding of coastal properties in and around their city, so we worked with the Australian Museum to modify the exhibit to one that showed the impact rising sea levels would have on the Perth metropolitan coastline. Simple, but effective, and having a huge impact on the value of the experience to the visitor.

Scitech also provides assistance in determining the best layout for the chosen exhibition on the host centre's floor, which ideally measures 500-700 square metres, is climate-controlled and secure, or can design a suitable exhibition floor plan from scratch. Exhibitions are also installed and tested by the Scitech technical and engineering staff, who ensure that they are ready to open on-time and in perfect working order.

Once a centre decides to hire one of our exhibitions, Scitech staff travel over to work with the host centre staff during the bump-in process. This allows us to give the host centre a thorough induction into the workings and

development of the exhibition as it is installed, and means they are more capable of trouble-shooting any issues that might arise during its rental. Host venue staff are also trained to carry out regular general checks and perform minor maintenance tasks to keep the exhibition in excellent condition during its season.

There's a wide scale range of technical expertise across the Asia Pacific science centres, which means that some centres require little support, whilst others need more comprehensive training.

Part of my role as the co-convenor of the travelling exhibition component of the Asia Pacific Network of Science and Technology Centres, known as ASPAC, is to maintain and improve relations between those member centres who travel, or aspire to travel, exhibitions in the region. Over 20 countries are represented in the group and they meet

annually with an aim to facilitate the ongoing exchange of exhibitions between each other.

When developing contacts and entering negotiations for exhibition exchange in this region, as far as Scitech goes, we're looking for exhibitions that have a popular theme and are proven to be marketable. As well as being a major exporter of exhibitions, Scitech is always on the lookout for quality science exhibitions that it can rent from other science centres and museums to add value to the visitor experience and to keep them coming back for more. Underpinning this must be scientific integrity, interactivity and engagement. We want exhibitions that match ours in scientific veracity and visitor appeal.

Scitech is now establishing itself as a player in the European travelling exhibition space. Scitech exhibitions were recently hosted by centres in Paris and Bristol, a Portuguese centre hosted Space in 2008, and the Speed exhibition has been to Finland, Estonia and the Netherlands in the past two years. So it's clear that the science centre in the second most isolated capital city in the world is doing anything but isolate itself from the travelling exhibition market.

Sharing ideas and keeping the channels of communication open are vital to successfully meeting the needs of science centres and museums in the Asia Pacific region. Do this, and you'll get to know both the market and machinations, and have a better chance of developing some positive and enduring relationships.



Scitech's Speed exhibition has been to Malaysia, Finland, Estonia and the Netherlands

*'Combining art, architecture and exhibitions
Creating innovative interactive learning experiences'*



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FEUERLÄNDER - REGIONS OF VULCAN

This exhibition of Ruhr.2010 has a transatlantic focus. It comprises 200 paintings illustrating the mining, iron and steel industries from around 1800 until today. This project results in the continuous growth of international partnerships, especially with the Westmoreland Museum of American Art (US) as a lender of numerous paintings and as a partner for educational exchange programmes, such as Building a Transatlantic Bridge!

LVR-Industriemuseum, Oberhausen, Germany
Contact: transatlanticbridge2010@yahoo.com
www.feuerlaender.lvr.de/transatlanticbridge

MURDERCASES: BECOME A FORENSIC RESEARCHER!

This interactive exhibition was developed by Montreal Science Centre. Museon has produced the European version. Visitors become detectives responsible for solving a murder. They look for clues, from the scene of the crime to the autopsy-room and the archives, and conduct analyses in the ballistic, genetic, biometric, fibre analytic and chromatographic labs.

The exhibition can now be seen in Heureka in Finland and will be available for rent in spring 2011.

Museon, The Hague, Netherlands

Contact Maarten Okkersen:
mokkersen@museon.nl
www.museon.nl



SURFING AND WALKING: MUSEUMS AND THE 2.0 CHALLENGES

The International conference on Saturday, 2nd October 2010 aims at fostering the exchange and the sharing of practices, experiences and evaluations on the new opportunities both of international and national level that new technologies and the Internet (web tools) offer to museums in terms of access, interpretation, communication and listening. The conference is organised by Fitzcarraldo Foundation, within the framework of DNA Italia, fair on museums and technology.

Fitzcarraldo Foundation, Turin, Italy
Contact training@fitzcarraldo.it
www.fitzcarraldo.it / www.salonednaitalia.it

FIRST® LEGO® LEAGUE

The FIRST® LEGO® League is an international science competition for children in the age of 8 up to 15 years old.

As a hand-on experience they enjoy thinking, planning and creating a robot with LEGO® MINDSTORMS® materials. At the same time they dive into doing research about each year's theme, placing science and technology in its social context.



Stichting Techniekpromotie, Eindhoven, Netherlands

Contact Sander Ezendam:
s.j.b.ezendam@techniekpromotie.nl
www.firstlegoleague.org

FUTURE ENGINEERS OF SOUTH AFRICA PRESENT AWARD WINNING STADIA FOR A WORLD CLASS CITY

43 primary schools shared their innovation and technical ability in a Lego Soccer Stadium Building competition coordinated by LEGO Education, the Gauteng Department of Education (GDE) and the Sci-Bono Discovery Centre.

Hands on Technologies (a South African agent of LEGO Education) co facilitated the technology based project worth over €100 000. Winning schools were formally awarded prizes by visiting Danish Minister of Culture and Sports, Mr. Per Stig Møller and the stadia are on exhibition at Sci-Bono, Newtown, Johannesburg.

Sci-Bono Discovery Centre, Johannesburg, South Africa

For more information contact Thandi O'Hagan:
thandi@sci-bono.co.za
www.handsontech.co.za/StadiumBuild.html



Glenanda learners make final touches to their stadium

TESTING AND MEASUREMENT

A new travelling exhibition on testing and measurement for the general public is currently being developed by institutions from Israel and the US: the Bloomfield Science Museum, Jerusalem, National Institute for Testing & Evaluation, Israel, the US Educational Testing Service and the Franklin Institute, Philadelphia.

We face the project together to encourage local and global dialogues between visitors to the exhibition and measurement experts on issues related to testing and society.

Bloomfield Science Museum, Jerusalem, Israel

Contact: Diana Alderoqui Pinus
dianap@mada.org.il
www.mada.org.il/en/exhibitions/testing

Ecsite Directors' Forum 2010: Change 2-4 December 2010, Natural History Museum, London

This year's gathering for directors of Ecsite Full member institutions tackles the theme of "change". Faced with an ever-changing society and economy, how do science centres and museums adapt to the challenges that these changes bring? This year's Ecsite Directors' Forum takes us to the Natural History Museum London. Among this awe-inspiring institution's 70 million specimens, we will look at the types of change that affect us, and the changes we make as an institution.



It is with great pleasure that we invite all Ecsite Full members to this historic institution for our annual Directors' Forum.

For more details and to register (Full Members only), see www.ecsite.eu or contact Michael Creek: mcreek@ecsite.eu

Ecsite Annual Conference 2011 - Session proposals due October 29th May 26th - 28th, 2011, Copernicus Science Centre, Warsaw, Poland

The Ecsite Annual Conference 2011 will take place in the Copernicus Science Centre in Warsaw, Poland May 26th - 28th, 2011. If you are interested in proposing a session all you need to do is visit our new Ecsite conference website and make your submission. The new website gives you the opportunity to apply for a session to share your proposal with other participants, to edit your session proposal and to submit by the deadline. The call for proposals will end on the 29th October 2010. The theme of the next conference is Freedom. In the first announcement on the conference website you can find compact information on the conference (registration fees, pre conference info, hotels, business bistro etc).

For more information please see <http://conference.ecsite.eu> or contact Michael Creek, at conference@ecsite.eu

Beyond the leaky pipeline - Challenges for research on gender and science 19-20 October 2010, Brussels, Belgium

The purpose of the "Meta-analysis of gender and science research" study is to collect and analyse research on horizontal and vertical gender segregation in research careers, addressing the underlying causes and effects of these two aspects. The main objective of the conference is to present the conclusions of the study and to discuss with experts and policy-makers the possibilities and challenges for European and national research on gender and science and policies towards gender equality in science.

Please visit the conference website for more information: <http://www.genderandscience.org>

European In-service training course: School and science museum: cooperation for improving teaching, learning and discover

7th-14th November 2010, Munich, Germany

The objective of the course is the development of knowledge and competences relative to science education through the use of museums as educational resource. After the great success of the first three editions, the fourth edition of the course takes place again at the Deutsches Museum of Munich. The course will be held by a group of experts from Belgium, France, Germany, Hungary, Italy and Spain specializing in museum education, science education, teacher training, research and evaluation, new technologies, etc. The course consists of lectures, round tables, museum visits, interactive workshops and practical activities. The language of the course will be English but the materials used will be available in different languages.

For more information see http://www.museoscienza.org/smec/courses_fifthed_eng.htm

Audience for Science: Symposium on scientific museology November 26 and 27, 2010, Corunna, Spain

The Museos Científicos Coruñeses are setting up a symposium on scientific museology under the title "Audience for Science", within the framework of the 25th anniversary of the Casa de las Ciencias. The University of Corunna (Scientific Culture Department) will join the activity. This symposium, aimed to the workers of science museums and to the professionals on scientific popularization, will be supported by experts from science museums, companies and institutions from several Spanish and Portuguese cities. Around the main topic, the understanding between the science museums and the public, other matters will be also addressed, such as the strategies for popularization, the visitor's profile, the infrastructures available to surf through modern science, etc.

More information: www.casaciencias.org or contact prensa.mc2@gmail.com

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Centres and Museums

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