

Innovation in Venue Design; what's new in the kitchen?

By Jon Coxeter-Smith: Director Sagacity MCS Limited – May 2013, London

These days, innovation is an integral part of our vocabulary. It's a much used word – maybe if Legacy is the L-word, Innovation has become the I-word for our sector - and apparently everyone's doing it. We have firms whose names shout it; centres and forums where we can talk about it and even government departments responsible for it! But does anyone know what it is? And why does it happen ... and do we want it anyway, or should we identify with Coco Chanel when she said "Innovation! One cannot be forever innovating. I want to create classics"?

So what do we mean..?

Some measures of innovation centre on patents, their numbers, influence and impacts. We could buy this when thinking about technology based elements, such as lighting or communications installations. Venue design though might be easiest thought of as a synthesis of many, many separate considerations and technologies and the relevance of such measures is less than persuasive in these circumstances.

What we are looking for is a definition that helps our understanding of what it is and starts to make sense of the why anyone would want to do it too.

Revealingly the education sector in some parts of the world does not use the I-word. In Finland and Sweden, for example, educationalists do not talk of innovation in their programmes; rather they talk of development and improvement. A similar based understanding for application in our field has much appeal, not only because we can easily 'get it' but because it also starts to suggest the possible motivations too.

We're not alone in wrestling with this problem; we can get a lot of help in framing our thinking from any number of eminent sources. These two are particularly helpful:

- "If you always do what you always did, you will always get what you always got." – Albert Einstein
- "There's a way to do it better – find it." – Thomas Edison

Why innovate..?

So for us Innovation in Venue Design is about doing different and about doing better. Having got to that degree of clarity, it's quite easy to go on to understand the stimulus too.

Stimulus	Notes
Crisis	The floodwaters are lapping around a business's feet – "you better start swimmin' or you'll sink like a stone" - Bob Dylan.
Memory	The business can still remember that time of crisis and still remembers that improvement is not an on/off function.
Leadership	Leading businesses understand the need to stay above the floodwaters.

Figure 1: Why Business Innovates

Alternatively but not exclusively to the business stimuli, we can find our drivers in the circumstances that surround and define the project. If we look at recent major sports events, London 2012 for example, some of the drivers are shown in the table below.

Driver	Notes
Citius Altius Fortius (Faster Higher Stronger) - the Olympic Motto	In the relentless drive towards the best Games ever. Successive Host Cities strive towards this accolade. Bid City after Bid City promises that the next edition will be even better. Organiser's look to numbers of World Records to add credibility to claims of sporting excellence. There were 37 World Records during the 2008 Olympic Games in Beijing.
Better, faster, cheaper	The mantra for resource and process efficiency originating in the Financial Services sector in the early 2000's now touches all sectors.
Economic Reality	There's a credit crunch out there!
Competition	Venues and facilities to stay competitive with other venues and rival attractions from Disneyland Paris to Westfield Stratford City.
Environment	This remains one of the biggest medium and long term issues that we face.

Figure 2: Drivers for improvement, London 2012

London 2012, measuring up...

Clients, designers and constructors were challenged by these drivers. If we look at the completed venues for London 2012 in the London Olympic Park, there are some great examples of the industry taking on the challenge.

Faster higher stronger

London was constant and strong in its determination to put sport and the athletes at the centre of all its plans. Athletes were involved in the design process and designers were challenged to use design to promote athletic performance and the furtherance of the Olympic Motto.

It wasn't without challenges for the designers though. The athletes' requirements, articulated by Olympian Sir Chris Hoy, included a fast track with a fast and stable environment. This meant hot, dry air, stability of temperature and no draughts. Great for cycling very quickly; but not so good for spectators.

The solution developed by the designers responds to these apparently opposing requirements and through a combination of geometry, arrangement, configuration and technologies, such as natural ventilation, provides for both.

Considerations of athletic performance and world records were central to the design of the Olympic Stadium roof. Athletic performance in track and field events can be compromised by headwinds and cross winds. Undue wind assistance from tailwinds too is undesirable since in order for world records to be validated for single events, any tailwind must not exceed 2.0 m/s.

The Populous led design team for the Olympic Stadium made many particular efforts, studies and wind tests to optimise benign and legal wind conditions to facilitate excellent athletic performance.

And if the proof is in the results; 25 Olympic and Paralympic Records and 22 World Records achieved during London 2012 in the Velodrome and 141 Olympic and Paralympic Records and 100 World Records in the Stadium underlines the success of the designers in meeting this particular challenge.

Better faster cheaper and Economic Reality

We can consider these drivers together; the efficiency drive implemented by industry to maximise competitiveness and profitability and the imperative to achieve more with less of the resource of finance made real by the new economic reality.

In the first place London has been very successful in explaining the investment required for the Games through unprecedented levels of alignment with wider, long term regeneration priorities. This and the focus on the end use rather than the short term have been vital ingredients in the hearts and minds campaigns to win and hold public support.

It's easy now to forget the early days of the preparations back in 2005 and 2006. UK's flagship project in those days was Terminal 5 at London Heathrow Airport. London 2012 organisers were contemplating a challenge to deliver a programme of infrastructure and facilities that was around about twice the size of T5. And the time available? About half the time!

Clearly the organisers needed to do things differently for the rate of progress suggested by best practice of the day in the construction industry was not going to get it done.

We can see just how much best practice has moved over the intervening years.

London has also taken the use of temporary facilities further than ever before. 'If it doesn't have a long term use it's temporary' defines the attitude which has guided London's strategy. The upshot has been a very efficient utilisation of resources, especially when viewed over the long term.

Competition

Legacy has been a central feature of London's bid and planning. Organisationally, the Olympic Park Legacy Company/ London Legacy Development Corporation has been up and running since 2009, four years before the Olympic Park comes under its stewardship. Contrast this with Athens 2004 where the government and organisers began to solicit legacy planning proposals in early springtime 2004, the year of the Games.

The thorough and rigorous approach to planning the future continues and while we have seen in the case the Olympic Stadium that it is not easy to devise a sustainable, long term future for a major Olympic venue, the dedication on the part of OPLC/LLDC provides a convincing reassurance of success in that regard.

Two particular features of the overall planning will undoubtedly assist the Olympic Venues in their long term performance:

1. Served by 9 rail lines the Park is arguably be one of the best connected destinations in London. Thus the venues are within easy reach to a very substantial population.
2. The venues though are not planned and designed to stand alone but rather are integral to the new communities in which they stand and serve.

Programmatically, nothing better illustrates the level of effort and determination that the venues will remain competitive than the VeloPark. Unique in UK the VeloPark will be a world-class cycling facility, with the capacity to host the full range of cycling events, including a World Championships, and meeting the recreational, training and competition needs of cyclists, and supporting the continued development of competitive and non-competitive cycling across the UK.

Environment

A feature of London's bid was the commitment towards sustainability and the environment.

The showed how a London Olympics would support the cause of One Planet Living - championed in partnership by the environmental groups BioRegional and WWF.

London 2012 then teamed up with these groups to flesh out and implement the concept of the One Planet Olympics.

London's success in this regard has been outstanding; examples are easy to find and almost too many to mention. Generically these revolve around:

- Lightweight – dematerialisation
- Recycling
- The use of rail and waterways for bulk transportation of materials
- Avoidance of road transportation where possible and coordination where unavoidable to minimise impacts
- Ecology - the creation of new habitats
- Low carbon energy
- Water use reductions

For example, the Olympic Village represents a 44% reduction in carbon emissions and 30% reduction in water use measured against typical facilities of the same typology.

The London 2012 Sustainability ‘Watchdog’ commends ODA on its achievement in “delivering unprecedented sustainability standards...” going on to offer the view that “The ODA’s performance in this area should be game-changing for the construction industry.”

In the face of such credentials it’s hard to deny that London has achieved better/ different in this area

Looking forwards to Qatar...

Qatar 2022 faces its own particular challenges demanding improvement and development of the state of the art.

One of those most discussed has been that around temperature and providing comfortable conditions for all participants including athletes, officials, media, operational personnel, security personnel, volunteers, FIFA family and spectators. There is much discussion on the stadia in this regard but the issue is all pervasive, affecting all participants 24 hours/day.

Much of the discussion around potential solutions has revolved cooling technologies and it seems inevitable that advanced technologies will form part of the solution. But it is likely too that the solutions will be a composite of a number of factors including planning, orientation, planting, traditional build and technologies, operational scheduling and so on. Architects and Engineers particularly could do worse than study the history of design in the Arab world for there is much experience there in designing to counter hot conditions.

The size of Qatar and the compact hosting plan presents an opportunity to present an amazing World Cup experience for all participants but poses particular challenges too. The intensity of activity of the World Cup spread over a compact area creates several imperatives, including:

1. Careful scheduling to spread activity as much as possible thereby avoiding concentration over particular peak times.
2. Excellent information systems, route planning and wayfinding provisions for all user groups. Further complexities are introduced here by the number of dimensions to be considered and that all 'solutions' must work together.
3. Resilience of transportation systems; the spike in arrivals into the country and of the demands on local transport systems are equally issues here.

Securing the legacy; Qatar's 2022 hosting concept is entirely complementary to the broader and longer term Qatar National Vision 2030. Indeed there is a very strong case to be made for the argument that the Qatar 2022 is being used to guide the progress of the development of Qatar en route towards QNV 2030. The Qatar 2022 effort must therefore keep in sight these longer term objectives and ensure that they are not diverted or blunted by the short term.

The furtherance of QNV 2030 will require a number of policy outcomes from Qatar 2022. Accomplishing these across such a large scale and wide ranging programme with multi-agency delivery represents a very considerable challenge. The solutions will come out of organisation design and creating the best governance model for the programme. In delivery, leadership and communication skills and the ability to achieve outcomes through the effective use of influence across the multiple agencies are likely to be highly prized.

The enormous scale of the programme presents huge challenges to achieve the levels productivity deliver the volume of outputs required in order to stay on schedule; and to go on doing that throughout the programme.

Sophisticated, but easily executable, planning will be necessary to ensure that capacity and capability in the supply chain is aligned with the requirements of the programme. In the region,

Qatar 2022 will be competing with the mega programmes underway in Saudi Arabia over overlapping timescales. Sourcing and distribution must be carefully planned to ensure that there are no critical shortages and that Qatar doesn't sink under the weight of concrete trucks.

There is a vast human resource required during the construction phase; those resources must be found and then allowed to get to work on time every day. And when they get to work, materials and tools must be to hand to allow them to work productively.

And all of this must be accomplished with minimal effect on everyday life in the region. A business as usual condition must be maintained. It's easy to foresee the challenges that additional construction traffic might create; the economic and schedule impacts of gridlock would be considerable.

Securing hosting rights for Qatar 2022 post-dated the development of QNV. Many plans and strategies, for example in the field of Transport and Infrastructure, pre-date Qatar 2022. And while, as has been said already, there is a close and exact alignment between the requirements for 2022 and QNV 2030, Qatar 2022 is an overlay to the wider QNV master plan. It adds another layer of complexity and introduces new inter-relationships, sequences and priorities to be factored in to other programmes which were already underway.

Closing thoughts...

Innovation is a difficult territory for while many people claim to 'do it', paradoxically, organisations strive to develop approaches that can be consistently replicated, time after time. And as we know from Albert Einstein, "If you always do what you always did, you will always get what you always got".

It's been helpful, at least for the author, in considering this subject – Innovation in Venue Design – to develop a working definition of Innovation not as an ethereal, blue sky, creative process but rather as a focussed effort with purpose and cause.

Analysis of recent major sporting events, especially London 2012, finds that the most effective and, by some measures, the most valuable solutions work across many of the stimuli or drivers, contributing to improvement in more than one area as illustrated in Figure 3.

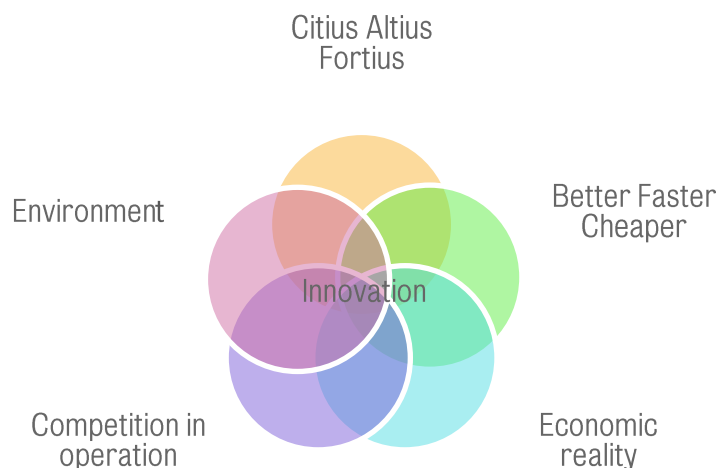


Figure 3: Drivers for improvement London 2012; relationship model

And finally back to the I-word. If when discussing innovation there's another word which better describes the meaning and intent, use that word instead!

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