

ACEI Design Excellence Awards 2017 - Nomination Form

Entry Category: Category (2) - Innovation Project (all disciplines)

Company Details:

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Categories/Groups:

Project Category: Innovation

Project Group: Large Project (over €10m)

Project Information:

Name of Project: The National Indoor Arena (NIA).
Location: National Sports Campus, Abbotstown, Dublin 15.
Dates : **Commencement:** July '15 / **Completion:** December '16

Client: Sport Ireland
Contact: David Conway (National Sports Campus Director)
Email/Tel: **Email:** dconway@sportireland.ie **Tel:** 01 860 8800

Design Team:

Architect KSS Group
Contact Nick Marshall (Director)
Email/Tel: **Email:** nick.marshall@kssgroup.com **Tel:** 0044 7812 602285

Contractor: HBJV - Joint Venture with Heron Bros. Ltd and Buckingham Group Contracting Ltd
Contact Oran McCloskey (Deputy Managing Director Sports & Leisure – Buckingham)
Email/Tel: **Email:** oran.mccloskey@buckinghamgroup.co.uk **Tel:** 0044 1280 823355

Authorisation to contact above: Yes

Project Details:

(1) Provide a brief outline of the project (Max 200 words):

The National Indoor Arena (NIA) is a multi-purpose, multi-functional, state-of-the-art facility that houses three individual indoor arenas, namely; the National Indoor Training Centre (NITC), the National Gymnastics Training Centre (NGTC) and the National Indoor Athletics Training Centre (NIATC). This 'first-of-a-kind' facility in Ireland is based within the 520-acre National Sports Campus (NSC) site in Abbotstown, north Dublin. Designed for "*a complete playing experience*", the level of innovation within the NIA's design, build and current functional operation is unrivalled in Ireland. As suggested by Sport Ireland, this indoor arena is the "*final missing piece*" in the sporting infrastructure of the nation. In March 2014, TOBIN was appointed to deliver this NSC centrepiece that boasts a footprint of approximately 40,000m².



This multi-functional venue can extend to facilitate events catering for up to 4,000 spectators. The NITC can be used for a number of sports, over 20 sports in fact, in a variety of configurations, including boxing, wheelchair rugby, volleyball, etc., with numerous seating options. Furthermore, the NIATC houses a hydraulically operated variable banking track. This is unique to Ireland as traditional indoor running tracks have permanently-banked bends, meaning that the space is restricted to athletics use only.

(2) Provide a statement regarding why this project might be considered award winning: (Max 300 words):

We believe that the NIA might be considered for the ACEI Innovation award for a number of specific reasons. These relate predominantly to its significance within an Irish context coupled with the fact that it includes a number of innovative conceptual developments within the engineering sector here. Many aspects of the NIA are a 'first' in Ireland. Described as "*the jewel in the Abbottstown crown*", the NIA is built to the highest world class standards and specifications.¹ The NIA is now a key component in promoting our high performance athletes' chances of challenging on the world stage at international and Olympic level. Quite simply, "*Sport Lives Here*".² For the first time in the history of this state, we have an incredible home for indoor sports for use by our sporting bodies and the general public alike.



This facility will enable dozens of different sporting entities to access world-class training and competition facilities supporting many future generations. The innovation in the design elements of the NIA means that non-sporting events can also be held here in the future. These will provide a steady and prosperous revenue stream which is paramount to the long term sustainability and success of the venue.

The NIA is now the ultimate destination for reaching the top level of participation in Ireland's most prominent indoor sports. Speaking before the Irish Badminton Open in December, three time

¹ Irish Times; 26th November 2016

² Sport Ireland



Olympian Scott Evans, described the event as *“the best competition of its kind because of its new National Indoor Arena venue”*.

The Irish influence on this project is also quite significant. For our part, we were Sport Ireland’s technical advisors throughout the entire project. The M&E, Civil, Structural and Quantity Surveying services were also all provided by Irish firms and Heron Bros of the HBJV joint venture are based in Derry.



(3) Provide further details of the project such as: design elements / procedures; complexities involved; innovation aspects; site management and supervision; health & safety issues; project cost controls and any other relevant information (Max 500 words):

Central to the all-encompassing nature of this particular project was a very real commitment to maximising its inclusive functionality within the broadest possible sense. For all of the project's key planning, design and build elements, extensive engagement was undertaken by TOBIN with all of the key stakeholders of the facility i.e. Athletics Ireland and Gymnastics Ireland etc. This input from the stakeholders was central to the successful completion of this innovative project. TOBIN and HBJV also embedded this crucial input from the stakeholders throughout the entirety of the project in order to deal with key elements of the work and reduce the potential for site management and H&S issues.³



In terms of the level of innovation within the NIA's design and construction, this venue is truly unique in Ireland. The NIATC alone boasts a 200m hydraulically operated track; 60m and 110m sprint tracks; throw, jump and pole-vault areas as well as permanent seating for 400 spectators. Space here is simply not an issue with individual overhead truss spans exceeding 70 metres in length. These trusses were fabricated in Scotland, transported to Dublin and assembled on site.

As discussed, the hydraulically operated variable banking track is the first of its kind in Ireland. Traditionally, indoor running tracks have included permanently-banked bends, meaning that the space is restricted to athletics use only. To accommodate the hydraulic element within this feature, moats were constructed on the bends along with shallower sections on the straights. The entire track is also

³ TOBIN and our sub-consultants also completed a review of the building layout granted planning under the Master Plan planning application (approved in 2009) and undertook significant consultations with the relevant sporting governing bodies, broadcasting companies and other relevant stakeholders in order to identify improvements that could be made to increase the functionality of the building. TOBIN completed the two-stage procurement process for the main works Contractor in January 2015, with works commencing on site in February.

set on a steel structure with a reinforced section provided to allow heavy vehicles access the infield.⁴ As explained by Campus Director, David Conway, *'the multi-functionality of the Arena is very significant...the hydraulic track will allow for its use as a venue for a variety of sports and events'*.



In the adjacent NITC, the adopted design and construction has provided for everything from anti-glare lighting to ventilation designed to minimise the impact on athletes as well as in-game projectiles. In addition to this, the blue walls serve as a pronounced backdrop for media broadcasting and TV coverage. This feature also allows the players to see the in-game projectiles far more clearly while in play. The NITC can be subdivided into 3 separate units to allow different sports access at the same time or to allow for high-performance training to take place at the same time as participation or recreational activities. From a sustainability perspective, both the NGTC and NIATC utilise natural ventilation as well as maximising natural light as a means of minimising running costs for Sport Ireland.⁵



⁴ The hydraulic sand pit also allows the infield to be utilised for all types of sports, and a reinforced cover has been provided that allows items to be placed on top of it (such as the bleacher seats) if required.

⁵ Of the three sporting areas within the NIA, only the NITC (which needs to essentially be a 'black box', particularly for badminton) utilises mechanical ventilation, which enables greater control of air speeds within the hall. Radiant panel heating systems were also installed in all sports halls, increasing the efficiency in the heating of these large areas.

The level of innovation involved in the planning, design and subsequent construction stages of this project has dramatically increased its potential for strong returns in revenue for many years to come. The option to host a number of events, of a varying nature, within a single dedicated area has ensured that this facility is future proofed for a very long time to come. In December 2016, the NIA opened its doors for the Irish Badminton Open.



Please confirm by electronic or written signature that:

- (a) The supplied text may be used in any marketing material issued in connection with the awards.

Yes, the supplied text may be used in any marketing material issued in connection with these awards.

- (b) Agreement has been received from the client and other stakeholders that the project can be inspected by the adjudicator and provide contact details as requested above for the relevant person to be contacted in this regard.

Yes, agreement has been received from Sport Ireland that the project can be inspected by the adjudicator. The relevant person to be contacted in this regard is:
David Conway: Email: dconway@sportireland.ie Tel: 01 860 8800

Signed:

Shane Kelly

Firm:

TOBIN Consulting Engineers

