Building and Construction Authority

An MND Statutory Board

05 March 2021

Dear Sir/Madam,

INTEGRATED DIGITAL DELIVERY (IDD) AWARDS 2021 FOR FIRM AND PROJECT CATEGORY:
OPEN FOR NOMINATIONS

We are pleased to inform you that the IDD Awards 2021 for firm and project category are now open for nominations.

1. The main objectives of the IDD Awards are to:
   - recognise firms and projects for their outstanding IDD adoption and IDD project team's efforts;
   - demonstrate IDD values and good practices at firm and project level; and
   - encourage more firms and projects to adopt IDD

2. We strongly encourage firms and practitioners in the Built Environment sector to participate in this Awards.

3. The closing date for the nomination is 30 April 2021, Friday, 12 noon.

4. For the details please refer to the IDD awards 2021 Firm and Project Category attached.

On behalf of BCA IDD Awards 2021 Technical Committee

Yours Sincerely,
Mr. Pong Woon Wei
Senior Manager
Digitalisation (DIGI)
Built Environment Research and Innovation Institute (BERII)
Building and Construction Authority (BCA)

BCA IDD Awards 2021
Firm Category

Contents

The BCA IDD Awards - Firm Category

The Objectives

The BCA Integrated Digital Delivery (IDD) Awards - Firm Category recognises outstanding firms for going the extra miles in the Integrated Digital Delivery (IDD) adoption.

The IDD Awards – Firm Category aims to:

i. Encourage firms to adopt IDD framework, technology and processes in their firms by establishing their own IDD value propositions, policies, standards, organisation committee with clear roles, responsibilities and training roadmap to building up their own IDD capability and capacity.

ii. Recognise firms for their outstanding examples of IDD approaches by adopting new technologies, methods, processes and skillsets to enhancing their own targeted key performance indicators (KPIs) across the projects in their firm.

The Winning Categories

Winning firms will receive either a Platinum, a Gold^{Plus} or a Gold Award. The Awards are not competitive but standard based. Awards will only be conferred to suitable entries received.

Gold Award will be awarded to firms that have adopted good IDD policies, standards, training framework and good practices for cross-disciplinary, cross-trade, cross-phases integration and productivity gains and better project delivery outcomes.

Platinum Award will only be conferred to firms that have displayed exemplary effort in IDD adoption and assisting others for cross-disciplinary, cross-trade, cross- cross-phases integration effectively and innovatively.

The award validity period is only three years from the year awarded, as stated in the certificate.

The Assessment Criteria

The Technical Committee (TC) appointed by Building and Construction Authority will assess the IDD submissions.

The IDD Firm Assessment Criteria

There are three parts in this IDD firm assessment criteria which includes the Value and Culture, Organisation and People and Technologies and Research & Innovations (R&I).

i. Value and Culture

- ✓ *Well-defined **value propositions and roadmap** for IDD adoption*
- ✓ *Well-documented IDD **policies, standards & best practices***
- ✓ *Well-structured **efforts & programmes** to build internal IDD culture*

ii. Organisation and People

- ✓ *Well-organised Senior Management led **IDD Committee** with clear roles & responsibilities to drive IDD adoption to all levels*
- ✓ *Well-implemented **Skills Framework & Development Programme** to build IDD capability*
- ✓ *Well-demonstrated **measurable outcome** of skill development program*
- ✓ *Well-demonstrated IDD **capacity and capability** at firm level*

iii. Technologies and Research & Innovations (R&I)

- ✓ *Well-demonstrated adoption of **data-driven and collaborative environment** for better outcome of past 3 years*
- ✓ *Well-demonstrated adoption of **new technologies and methods** for better process or outcome, e.g. in-house commercialised products, in-house developed tools & plugins*
- ✓ *Well-documented involvement in outcome of **R&I projects,** with its impact, scalable & innovative solutions compared with conventional practices, tabulated in a comparison table.*

The Eligibility Criteria

1. The applicant must be a Singapore-registered business enterprise directly contributing to the Gross Domestic Product (GDP) of the construction industry.

2. Application is open to all firms related to Built Environment sector.

The Assessment Process

There are two stages for the IDD Awards assessment process, which comprise of
- Stage 1- submission; and
- Stage 2- presentation.

Please be informed that <u>all activities have to be carried out online</u> and incomplete submission will not be accepted.

Stage 1- Online Submission

All applicants are required to complete the checklist & declaration form and self-create a downloadable link that contains the requested items and submit it via the submission link below, <u>**latest by 30 Apr 2021, Friday, 12 noon**</u>.

1.0. Submission Link: <u>IDD Awards 2021 – Firm Category</u>
You will receive an acknowledgement email if your self-created submission link is received.

1.1. Requested Items:
1.1.1. The <u>content stipulated below is for IDD Firm level</u>.

1.1.2. The <u>Checklist & Declaration</u> form stipulated in the submission link.

1.1.3. A <u>tabulation of past 2 to 3 years IDD works and projects</u>, demonstrating clear outcome of before and after adoption comparison.

1.1.4. <u>Organisation Chart and IDD Committee for Firm</u> (if available).

1.1.5. <u>A maximum of 15 pages A4 write-up</u> in pdf format with font requirements below:
- Font Type: Calibri Light
- Font Size: 11 for text; 12/14, Bold for titles; all with single spacing
- Content: refer to 'Write-up Guide for IDD Firm'

Note:

BCA would request shortlisted applicants to prepare two digital presentational panels and one 2-minute video clip for the purpose of promotion and creating awareness for it.

Stage 2- Online Presentation and Interview Session

Only shortlisted applicants <u>will be receiving an email notification, by 21 May 2021</u>, for an allocated timeslot on 2 Jun, for their online 10-minute presentation and 15-minute interview session.

<u>A Guideline and a link will be provided</u> to the shortlisted applicants in the email notification, for them to prepare a maximum of 20 pages powerpoint presentation slides and its submission.

The <u>presentation slides are to be submitted latest by 28 May</u>, via the link provided in the email notification.

The <u>representative of the firm, the Senior Management and the key drivers for IDD of the firm are required to attend </u>both the online presentation and Q&A session on 2 Jun.

The representative of the firm will <u>introduce the team and make a presentation</u> to the Technical Committee (TC) <u>within 10 minutes</u>. After the presentation, the team will be interviewed by the TC for 15 minutes. The team may be asked for their IDD adoption processes, hurdles, strategies and/or other details and aspects related to the firm and/or the one specific recent project submitted for the IDD Awards.

Terms and Conditions

The Intellectual Property (IP) of all submitted materials remains with its author.

BCA reserves the right to use any material submitted in connection with the entries in any way deemed fit, without payment of fees or royalties, and regardless of the results of the Award. This includes, but is not limited to, the publication and/or exhibition of photographs, materials and/or names.

The IDD Awards recipient(s) is/are required to share related information on their successful IDD firms and/or projects with the construction industry. This sharing of information may take the form of presentations, seminars, exhibitions, online social media and/or the hosting of company visits.

The Technical Committee reserves the right to defer judgment on any shortlisted applicants, firms and/or projects if at any time during the assessment process, any development or incident arises concerning any party linked to the applicants, firms and/or project, which is likely to result in adverse publicity to the Awards, the BCA and/or the construction industry. The duration of any such deferment shall be at the sole discretion of the Technical Committee.

BCA reserves the right to withdraw or withhold any entry and/or award at any time, if in the opinion of the BCA, the conferment of such award might result in any adverse publicity to the Awards, the BCA and/or the construction industry, because of any development or incident concerning any party linked to the recommended award winning firm and/or project. The duration and extent of any such withdrawal or withholding shall be at the sole discretion of BCA.

Pre-Announcement of Results and Awards Ceremony

We will notify the shortlisted winners of the result by email in July of 2021 for their preparation for the Awards Ceremony.

All enquiries concerning entries for the BCA IDD AWARDS 2021 should be emailed to contacts below:

Mr PONG Woon Wei / Mr Jusuf ANGGONO
Email: pong_woon_wei@bca.gov.sg / jusuf_anggono@bca.gov.sg
Tel: 6730 4526 / 6248 9982

The Secretariat of BCA IDD Awards 2021,
Digitalisation (DIGI)
BCA Braddell Campus,
Block A, Level 1, BERII,
200 Braddell Road,
Singapore 579700.

The Awards ceremony will be presented in the BCA Awards Night 2021 in September 2021.

IDD Awards 2021 Check List and Declaration Form

Checklist

Name of Firm: _____

Please check all requested items by inserting "✓" into the box beside each of item below.
The following documents to be prepared and submitted in file format and file names stipulated below. Submission Link is provided in next page under Declaration Form

- [✓] 1. Checklist, in pdf
  (File name: 2021_Chk_IDD_Firm_XXX*)

- [ ] 2. Nomination form, duly completed and signed, in pdf
  (File name: 2021_Nom_IDD_Firm_XXX*)

- [ ] 3. Factsheet for IDD Firm duly completed, in pdf
  (File name: 2021_FS_IDD_Firm_XXX*)

- [ ] 4. A maximum of 15 pages write-up for IDD Firm, based on 'Write-up Guide for IDD Firm', in pdf
  (File name: 2021_WR_IDD_Firm_XXX*)

- [ ] 5. A downloadable link containing all 4 files above, valid until 2 Jun

*Note: Please replace XXX with an abbreviation for the name of your firm.

Declaration Form

This set of Declaration Form includes the Nomination Form for Firm and Factsheet for IDD Firm. We have read and understood the content of the Declaration Form and we wish to submit our application for the BCA IDD Awards 2021.

We declare that all information provided are correct to the best of our knowledge.

We will submit this Form, together with all the requested items in a self-created downloadable link under Stage 1 – online submission, **not later than 30 April 2021, 12.00pm noon** to the submission link here: IDD Awards 2021 – Firm Category

Nomination Form for Firm

1. Firm Name	_____
2. Firm Address	_____
3. Contact Person*	_____
4. Contact Number	(O) _____ (HP) _____
5. Email Address	_____

Signature	Official Stamp

Note:
This person should be involved in the development and he/she is familiar with the submitted details for this submission. He/She shall be the liaison person for this nomination.

Factsheet for Firm

There are three parts in this Factsheet for IDD Firm, including Value and Culture, Organisation and People, and Technologies and Research & Innovations. Please complete the provide the information requested accordingly in a separate pdf file, named as IDD_Firm_XXX*.pdf. (*please replace XXX with the name of your firm)

Name of Firm: _____

Value and Culture

1.1 Any IDD defined Value Propositions, Policy/Goals, Guide/Standards, best practices, introduced/developed to accelerate IDD adoption in your firm? Yes/No
If yes, please fill in the following information:

IDD Value Propositions	When was the IDD propositions defined?
e.g. *What is IDD to your Firm? The definition, objectives, uses, strategies, benefits of IDD applicable to your firm*	*Oct 2019*

IDD Policy/Goals	When was the policy introduced?
e.g. *To leverage IDD technologies and innovative means for a sustainable and competitive business model.* *To achieve min. 30% productivity gains by adopting IDD technologies and innovative approach.* *To train all architects, engineers, production team and senior management in IDD by 2023.*	*Oct 2020*

IDD Guide/Standards	Since when the IDD Guide/Standards was used?	When was the last update of the Guide/Standards?
e.g. IDD Project Guide for all HDB project	*Oct 2018*	*Oct 2020*

IDD Community of Practice in Specific Interest Group		
Community of Practice (CoP)	Activities	Outcome (date)
e.g. Computational BIM	*As a speaker in an Open Sharing for the Computational BIM CoP*	*To manipulate and automate 3d modelling processes with visual programming approach applied for BCAA Project at Braddell Campus (Sep 2019)*

Organisation and People

2.1. Any IDD committee/team in your firm who is overseeing IDD adoption? Yes/No
   If yes, please fill in the following information:

Name	Designation	Discipline	Roles and Responsibilities
e.g. John Ho	*MD*	*Archi*	*Overseeing the IDD adoption at all levels*
e.g. K.C. Yap	*IDD Director*	*IDD*	*Provide strategic IDD adoption direction*

2.2. Is there any in-house IDD training programmes to develop your staff? Yes/No
   If yes, please fill in the following information:

Name of In-house IDD training programme	Attendees of In-house training programme	Brief syllabus of the training programme
e.g. Cross-disciplines, Cross-trades, cross-phases collaboration	*Architectural Associates*	• *Navigating the BIM model in a cross-disciplinary software online with real-time reviewing and commenting of the federated BIM model*
e.g. Computational BIM	*BIM Modellers*	• *Use of Visual Programming to automate repetitive tasks such as placement of 3D modelling components and automated update of changes*

2.3. Current status of staff trained in IDD:

Personnel	Staff trained in BIM/VDC/IDD (%)	Number of Staff
e.g. Architectural Associates	• *40 (IDD) (4 out of 10)*	*10*

2.4. Current status of staff IDD competency:

Personnel	Number of staff at (number of IDD projects involved)		
	Basic Level (1 IDD project)	Intermediate Level (2-3 IDD projects)	Advanced Level (> 3 IDD projects)
e.g. Archi Associates	*2*	*1*	*1*

2.5. Current status of IDD projects:

Period of Awarded Projects	IDD Projects (%)	Total Projects
e.g. 2019	*50 (25 out of 50)*	*50*

2.6. IDD projects for the past 2-3 years:

Project Name & Date	Total GFA (sqm)	KPIs & IDD Use Cases at different stage of project delivery (Savings/Improvements with IDD Applications)	
e.g. 12 storey Academic Tower with MSCP at BCA Braddell Campus (2019 to -date)	*15,000*	*Computational BIM for MEP Automation*	
		DD	*XX man-hours savings, $XX costs savings, with XXX time faster, with the use of Python scripts and computing power to automate the Archi, MEP & C&S items:* • *calculations for MEP fixtures' requirements (Lightings, Sanitary Fittings, Sprinklers & Equipment)* • *placement and update of MEP fixtures in models and drawings* • *Quantification and tabulation of MEP fixtures*
		DC	*XX man-hours savings, $XX costs savings, with XXX time faster, by streamlining coordination processes with project team for number of MEP fixtures, equipment and installation positions with automated extraction of information in cloud-based coordination approach*
		FM	*Est. min. XX% of savings in operational costs by using model-based predictive operations and maintenance*
IDD Stages (Please state only where applicable): *DD: Digital Design; DF: Digital Fabrication;* *DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management* Note: All blue text to be replaced by self-defined KPIs			

You may include IDD project(s) not being awarded but with the involvement during Design or tender stage. Please state the specific stage involved under the 'Name of Project', e.g. BCAA Braddell Campus (Design Stage only), and 'NA' under the 'Date of Project being Awarded'.

Technologies and Research & Innovations

3.1. Adoption of data-driven and collaborative environment for KPIs of projects (Technologies, Tools, Methods & Innovations applied in recent 2-3 years):

IDD Projects & Date	Stage	Data-driven and Collaborative Tools, Methods & Innovations
e.g. BCA Braddell Campus (2018 to-date)	*All*	• *Use of local server to serve as Common Data Environment (CDE) / Data Platform, with the use of XXX Collaborative Software, to store essential project data and daily update in structured Data Standards, with controlled administrative access rights for different project stakeholders, for effective cross-disciplinary collaboration and coordination, from design, fabrication to construction stage.*
	DC & DAD	• *Use of XXX Technology/Software to document and track the approvals, orders, deliveries, payments, variations, installation status of PPVC MEP Components for quality control assurance along the project development process*
IDD Stages (Please state only where applicable): *DD: Digital Design; DF: Digital Fabrication;* *DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management* <u>Note: All blue text to be replaced by self-defined KPIs</u>		

3.2 Research & Innovations

IDD R&I and Date	Stage	Research & Innovations attempts and achievements
e.g. XXX project R&I on AI applications for Smart Planning (2018 to-date)	*DD*	***Topic:*** *To develop a new AI engine on XXX Project, to automate the spatial design optimisation with multi-factor considerations including requirements below:* ✓ *BCA Green Mark;* ✓ *downstream DfS and DfM Requirements;* ✓ *BCA Approved Documents; and* ✓ *Project Costs.* ***Achievements:*** *Applied in project XXX, with time savings of 80% design time, with acknowledgement from client and speedy decisions.* ***Challenges:*** *Learning time with User Interface and more time spent for input & data over downstream requirements brought upfront.*
IDD Stages (Please state only where applicable): *DD: Digital Design; DF: Digital Fabrication;* *DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management* <u>Note: All blue text to be replaced by self-defined KPIs</u>		

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Write-up Guide for IDD Firm

The maximum of 15 pages write-up MUST be structured and reference to the guidelines below for assessment. There are four parts in this write-up which includes the Value and Culture, the Organisation and People, Technologies and Research & Innovations (R&I), and the Conclusion. Please refer to Stage 1 – Online Submission, 1.1.5 for the other requirements.

i. Value and Culture

- ✓ This section defines firm's Integrated Digital Delivery (IDD) value propositions, including the definition of IDD in your firm, the vision and mission.
- ✓ Entries shall include Firm's IDD policy, standard and typical IDD project workflow in comparison with the traditional workflow. How the Senior Management drives IDD across all levels in your firm with the established IDD policies, standards & best practice?
- ✓ Are there structured efforts and programmes to build IDD culture, e.g. periodical sharing and community of practice focused in specific area?

ii. Organisation and People

- ✓ This section describes the firm's commitment in building IDD capability, e.g. IDD Roadmap of Firm on how to build up IDD competency at the Firm level. If there were mindset issues and resistance from the existing employees for new technology and methods, how did the firm overcome them?
- ✓ How the firm effectively promote IDD across all levels, e.g. via IDD Committee with clear roles and responsibilities and effective communication channels or a 360-degree approach?
- ✓ How the project team sets the IDD KPIs and how they were measured against their goals e.g. targeted milestones with specific timeframes looked after by in-charged personnel and supporting tech. system?
- ✓ What are the hurdles and strategies to building the IDD capacity and capability across the projects in your firm?

iii. Technologies and Research & Innovations (R&I)

- ✓ This section showcases the innovative use of IDD on its framework, methodology, technological, processes, and challenges encountered in the IDD project.
- ✓ The key measurable outcome and comparisons with a conventional approach, e.g. comparisons of CAD, BIM, VDC, IDD with the value engineering principle for the maximum returns over investments of IDD technologies, time spent, resources and processes for it.
- ✓ The why and how factors for the involvement in R&I for the projects shall be articulated here, e.g. future directions for scalable impactful solutions for problems and/or potential improvements.

iv. Conclusion

- ✓ This section describes the most important productivity gain adopting IDD in the firm and how these were quantified and compared with typical results.
- ✓ The efforts to help other firms to adopt IDD could be discussed.
- ✓ The future plans of the firm to improve its cross-disciplinary and cross-phases integration for better outcomes across the projects shall be described here.

BCA IDD Awards 2021
Project Category

Contents

The BCA IDD Awards 2021 – Project Category

The Objectives

The BCA Integrated Digital Delivery (IDD) Awards – Project Category recognises the contribution of project teams in their Integrated Digital Delivery adoption from Digital Design, Digital Fabrication, Digital Construction to Digital Asset Delivery and Management stages.

The IDD Awards Project Category aims to:

i. Encourage project teams to streamlining work processes and connecting stakeholders through digital data, innovation and technology across the whole project life cycle from design, construction, fabrication, to facilities management to deliver a better outcome for end users.

ii. Recognise project teams for their outstanding examples of IDD use cases, to adopt new technologies, methods, processes and skillsets for their own targeted key performance indicators (KPIs) set from the start, development, delivery to final operational stage of the project, for cross-disciplinary, cross-phases integration and productivity gains.

The Winning Categories

Winning projects will either receive a Platinum, a GoldPlus or a Gold Award. The Awards are not competitive but standard based. An Award will only be conferred if a suitable entry is received. Several Awards may also be conferred in each category.

A Gold Award will be awarded to a project that has good IDD adoption and practices that follows Singapore IDD Technical Guide. A Platinum Award will only be conferred to a project that has displayed exemplary IDD demonstration with clear IDD framework, methodology to improve and transform actual processes with cross-disciplinary and cross-phases integration for measurable KPIs applied across the whole project life cycle from design, fabrication, construction, to FM stage, to deliver a better outcome for end users.

The award validity period is only three years from the year awarded, as stated in the certificate.

The Assessment Criteria

The Technical Committee appointed by Building and Construction Authority will assess the IDD submissions.

The IDD Project Assessment Criteria

There are three parts in this IDD firm assessment criteria which includes the IDD Project Overview, IDD Areas & Integration and Outcomes & Comparisons

i. **IDD Project Overview**

- ✓ *Well-defined **value propositions and execution plan** for IDD project*
- ✓ *Well-defined IDD project **requirements, process, standards & best practices***
- ✓ *Well-structured **IDD project Team, & communication channel***

ii. **IDD Areas & Integration**

Well-demonstrated outcome with cross-disciplinary and cross-phases integration of the four IDD areas with own defined criteria:
- ✓ ***Digital Design** e.g. to engage stakeholders to achieve optimized and coordinated design, to meet client's regulatory and downstream requirements*
- ✓ ***Digital Fabrication** e.g. to translate design to standardized components for automating off-site production*
- ✓ ***Digital Construction** e.g. for just-in-time delivery, installation and monitoring of on-site activities to maximised productivity and minimise rework.*
- ✓ ***Digital Asset Delivery & Management** e.g. to incorporate requirements to facilitate downstream operations and maintenance*

iii. **Outcomes & Comparisons**

- ✓ *Well demonstrated **adoption of new technologies and methods** for better process or outcomes*
- ✓ *Well documented **comparisons of measurable KPIs of IDD and conventional approach** e.g. cost, time, manpower, resources, quality, productivity*

The decision of the Assessment Panel shall be final. The discretion of the Assessment Panel to confer or withhold an award is absolute. No appeal regarding the Assessment Panel's decisions will be entertained.

The Eligibility Criteria

1. All local projects are eligible for nomination.

2. Projects that are under construction of superstructure or just completed construction by the time of nomination will stand a better chance to demonstrate the extent of IDD cross-disciplinary and cross-phases integration and collaboration beyond design.

3. Each entry must seek permission from the project owners/clients and notify all other project team members involved in the IDD implementation.

4. Awards are given to the winning project teams. The firms which are eligible for the awards are:
   - Client; and
   - Any member of the project team

5. Each project can only be submitted once.

The Assessment Process

There are two stages for the IDD Awards assessment process, which comprise of
- Stage 1 - online submission; and
- Stage 2 - online presentation.

Please be informed that <u>all activities have to be carried out online</u> and incomplete submissions will not be accepted.

Stage 1- Online Submission

All applicants are required to complete the checklist & declaration form and self-created a downloadable link that contains the requested items and submit it via the submission link below, <u>latest by 30 Apr 2021, Friday, 12 noon</u>.

1.0. Submission Link: <u>IDD Awards 2021- Project Category</u>
    You will receive an acknowledgement email if your self-created submission link is received.

1.1. Requested Items:
1.1.1. The <u>content stipulated below for IDD Project level</u>.

1.1.2. The <u>Checklist & Declaration</u> forms.

1.1.3. <u>Project Organisation Chart and IDD Committee for Project</u> (if available).

1.1.4. A maximum of <u>15 pages A4 write-up</u> in pdf format with font requirements below:
- Font Type: Calibri Light
- Font Size: 11 for text; 12/14, Bold for titles; all with single spacing
- Content: refer to guidelines for write-up report

Stage 2- Online Presentation and Interview Session

Only shortlisted applicants <u>will be receiving an email notification, by 28 May 2021</u>, for an allocated timeslot on 10 Jun, for their online 10-minute presentation and 15-minute interview session.

<u>A Guideline and a link will be provided</u> to the shortlisted applicants in the email notification, for them to prepare a maximum of 20 pages powerpoint presentation slides and its submission.

The <u>presentation slides are to be submitted latest by 7 Jun</u>, via the link provided in the email notification.

The <u>representative of the project, the Senior Management and the key drivers for IDD of the project are required to attend</u> both the online presentation and Q&A session on 10 Jun.

The representative of the project will <u>introduce the team and make a presentation</u> to the Technical Committee (TC) <u>within 10 minutes</u>. After the presentation, the team will be interviewed by the TC for 15 minutes. The team may be asked for their IDD adoption processes, hurdles, strategies and/or other details and aspects related to the firm and/or the one specific recent project submitted for the IDD Awards.

Note:
BCA would request shortlisted applicants to prepare two digital presentational panels and one 2-minute video clip for the purpose of promotion and creating awareness for it.

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The IDD Awards recipient(s) is/are required to share related information on their successful IDD firms and/or projects with the construction industry. This sharing of information may take the form of presentations, seminars, exhibitions, online social media and/or the hosting of company visits.

The Technical Committee reserves the right to defer judgment on any shortlisted applicants, firms and/or projects if at any time during the assessment process, any development or incident arises concerning any party linked to the applicants, firms and/or project, which is likely to result in adverse publicity to the Awards, the BCA and/or the construction industry. The duration of any such deferment shall be at the sole discretion of the Technical Committee.

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Any changes to the dates and/or items will be notified by email correspondence to all applicants.

Pre-Announcement of Results and Awards Ceremony

We will notify the shortlisted winners of the result by email in July of 2021 for their preparation for the Awards Ceremony.

All enquiries concerning entries for the BCA IDD AWARDS 2021 should be emailed to contacts below:

Mr PONG Woon Wei / Mr Jusuf ANGGONO
Email: pong_woon_wei@bca.gov.sg / jusuf_anggono@bca.gov.sg
Tel: 6730 4526 / 6248 9982

The Secretariat of BCA IDD Awards 2021,
Digitalisation (DIGI)
BCA Braddell Campus,
Block A, Level 1, BERII,
200 Braddell Road,
Singapore 579700.

The Awards ceremony will be presented in the BCA Awards Night 2021 in September 2021.

Frequently Asked Questions (FAQ)

Do I have to submit with entire project team?

No. However, in order to demonstrate IDD technologies, framework, methods and processes for cross-disciplinary and cross-phases collaboration and integration, you may want to invite some of your key project team members to join in for the IDD Awards application.

Can I submit more than one project for the BCA IDD Awards - Project Category?

Yes. The BCA IDD Awards- Project Category does not limit the number of projects to submitted by the same firm.

However, each project can only be submitted once.

Who must sign the Nomination Form?

Any eligible members of the project team whom were involved for the IDD implementation may be nominated as the IDD project representatives.

He/She will be receiving the BCA IDD Awards – Project Category certificate.

IDD Awards 2021 Check List and Declaration Form

Checklist

Name of Firm: _____

Please check all requested items by inserting "✓" into the box beside each of item below.
The following documents to be prepared and submitted in file format and file names stipulated below. Submission Link is provided in next page under Declaration Form

☑ 1. Checklist, in pdf.
   (File name: 2021_Chk_IDD_Proj_YYY*)

☐ 2. Nomination form, duly completed and signed, in pdf.
   (File name: 2021_Nom_IDD_Proj_YYY*)

☐ 3. Factsheet for IDD Project duly completed, in pdf.
   (File name: 2021_FS_IDD_Proj_YYY*)

☐ 4. A max. of 15 pages write-up for IDD Project, based on 'Write-up Guide for IDD Project', in pdf.
   (File name: 2021_WR_IDD_Proj_YYY*)

☐ 5. A downloadable link containing all 4 files above, valid until 10 Jun

*Note: Please replace YYY with an abbreviation for your IDD project.

Declaration Form

This set of Declaration Form includes the Nomination Form for Project and Factsheet for IDD Project. We have read and understood the content of the Declaration Form and we wish to submit our application for the BCA IDD Awards 2021- Project Category.

We declare that all information provided are correct to the best of our knowledge. We declare that the one specific building / civil engineering works nominated were carried out in accordance to the design as shown in the federated model submitted.

We will submit this Form, together with all the requested items in a self-created downloadable link under Stage 1 – online submission, **not later than 30 April 2021, 12.00pm noon** to the submission link here: IDD Awards 2021 – Project Category

Nomination Form for Project

There are three parts in this set of nomination form for project which includes the Details of Project, the Project Team and the Roles and Responsibilities of the Project Team Members.

The Details of Project

1. Project Name _____

2. Project Location and Address _____

3. Date of Tender Awarded _____

4. Project Status
   (*please tick one*)
   ☐ Under Construction of Superstructure
   ☐ Construction Completed
   ☐ Others (*please specify*): _____

5. Gross Floor Area* (GFA), sqm _____

6. Total Length and Width**, m
   (For civil engineering project only) _____

7. Contract Type
   (*please tick one*)
   ☐ Design, Bid & Build
   ☐ Design & Build
   ☐ Others (*please specify*): _____

8. Contact Person*** _____

9. Contact Number (O) _____ (HP) _____

10. Email Address _____

Note:
* *Refers to the areas defined by URA.*
** *Refers to the total length and width constructed for civil engineering projects such as roads, tunnels, bridges etc.*
*** *This person should be involved in the project and is familiar with the details in this submission. He/She shall be the liaison person for this project.*

The Project Team

Client's Firm			
Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

_____			
Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

_____			
Signature and official stamp	Name :		
	Designation :		
	Company Name :		
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The Project Team

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Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

_____			
Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

_____			
Signature and official stamp	Name :		
	Designation :		
	Company Name :		
	Company Address :		
	Tel No:	Fax No:	Email Address:

The Project Team

The Roles and Responsibilities of the Project Team Members

Please state the Roles and Responsibilities of the Project Team Members for their IDD implementation and involvement in the project:

Name of Firm	Role	Responsibilities
XXX Pte Ltd	*Client*	*Oversees the implementation of IDD at all levels*

Factsheet for Project

There are four parts in this Factsheet for Project, including IDD Project Overview, IDD Areas & Integration and IDD Outcomes & Comparisons.

Name of Project: _____

IDD Project Overview

There are three parts in this section of IDD Project Overview, including the IDD value propositions and execution plan for Project, the IDD project requirements, process, standards & best practices and the IDD project team & communication channel. Please elaborate in point form manner for a quick IDD project overview.

If yes, please fill in the following information:

IDD Value Propositions and execution plan for Project
What is IDD to your Project Team?   *Elaborate the definition, objectives and goals of IDD, applicable to your project.*
Is there an IDD execution plan?   *Elaborate the roles, responsibilities, deliverables, milestones, outcome (may be attached as Appendix if too extensive)*

IDD project requirements, process, standards & best practices
What are the KPIs set by your Project Team for IDD?   *Elaborate the IDD requirements, processes, strategies, standards & best practices of IDD, applicable to your project.*

IDD project team & communication channel
How did the project team members communicate, collaborate and coordinate?   *Elaborate on the structured communication channel with supporting IDD technologies for it.*

IDD Areas & Integration

IDD Outcome based- KPIs & Use Cases at different stage of project	
What are the outcome based KPIs with cross-disciplinary and cross-phases integration of the four IDD areas below? (Refer to <u>IDD Technical Guide</u>)	
DD	*to engage stakeholders to achieve optimized and coordinated design, to meet client's regulatory and downstream requirements, e.g. Generative Design, Design Optimisation, ICE coordination, etc.*
DF	*to translate design to standardized components for automating off-site production, e.g. Fabrication Detailing, QA/QC inspection, logistic tracking and monitoring, etc.*
DC	*for just-in-time delivery, installation and monitoring of on-site activities to maximised productivity and minimise rework, e.g. cloud-based model collaboration, digital virtual mock-ups, Safety planning, etc.*
FM	*for real-time monitoring for operations and maintenance to enhance asset values, e.g. Defects management, real-time monitoring, smart operations & management, etc.*
IDD Stages (Please state only where applicable): *DD: Digital Design; DF: Digital Fabrication;* *DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management* <u>Note: All blue text to be replaced by self-defined KPIs</u>	

Outcomes & Comparisons

Research & Innovations (R&I)

IDD R&I and Date	Stage	Research & Innovations attempts and achievements	KPIs
e.g. XXX project R&I on Blockchain applications for BIM-based project (2018 to-date)	DD	• To develop a new Blockchain API to assist the architect in BIM-based collaboration and coordination with distributed databased approach for automated documentation and verification of requirements including: ✓ BCA Green Mark; ✓ downstream DfS and DfM Requirements; ✓ BCA Approved Documents; and ✓ Project Costs.	XX% savings / XX achievements for self-defined KPIs e.g. compared with a similar project/ conventional method to be elaborated in write-up • Time XX man-hours • Cost $XX • XX% Productivity Gains

IDD Stages (Please state only where applicable):
DD: Digital Design; DF: Digital Fabrication;
DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management

Note: All blue text to be replaced by self-defined KPIs

BCA IDD Awards - Project Category

Outcome Comparisons

Demonstrate the self-defined KPIs for the applicable stages in your project, e.g. during DD, DF, DC and/or DAD/FM with applied IDD technologies, methods or any other innovative approaches. You may elaborate how the figures are measured and rationalised in your write-up later or elaborate in point form below

DC Stage

Sn	KPIs	Past	Target	Actual	Est. Improvements
1	Expenses On-site (Cost) • Cost of Labour • Cost of Reworks • Cost of Materials	$XXX/yr $XXX/yr $XXX/yr	$XXX/yr $XXX/yr $XXX/yr	$XXX/yr $XXX/yr $XXX/yr	XX % XX % XX %
2	Resources Management (Productivity) • Logistics Downtime • Equipment Downtime	XX hour XX hour	XX hour XX hour	XX hour XX hour	XX % XX %
3	QA/QC (Quality) • Number of RFIs • Design Coordination	XX hour XX hour	XX hour XX hour	XX hour XX hour	XX % XX %
4	Work, Safety & Health (WSH) • Incidents • Inspections	XX nos XX nos	XX nos XX nos	XX nos XX nos	XX % XX %
5	Construction Schedule (Time) • Piling Works • Apron drain & ground slab • PBU module installation	XX days XX days XX days	XX days XX days XX days	XX days XX days XX days	XX % XX % XX %

Explain the methods and tools for the measurable outcome above, with a similar project.
e.g.
Item 1. Verification of progress claims (Cost) – process & tools involved, compared with XXX project.
- Contractor submits monthly progress claim to Architect, using XXX costing tool, XXX BIM authorising tool and XXX scheduling tool.
- Architect inspects the completed works within XX days, assisted by COW on-site, using XXX tool to verify and document completed works and XXX Tool for scheduling update
- QS assisted the quantification of progress claims, using XXX tool.
- Consultant PM will digitally track all items, using XXX tool.
- Architect issues Interim Certification to Contractor and cc Employer and Consultants upon QS's confirmation over the quantification and all progress documents will be recorded by XXX tool.
- Any potential delay of actions by any parties, will be prompted by XXX tool, for any precedent actions needed by consultants, contracts or employer according to contract requirements.
- Without the help of XXX, XXX, and XXX tools, the current actual cost would be XXX, reference to a similar project of XXX.
Item 2. …

IDD Stages (Please state only where applicable):
DD: Digital Design; DF: Digital Fabrication;
DC: Digital Construction; DAD/FM: Digital Assets Delivery/ Facility Management

Note: All blue text to be replaced by self-defined KPIs

Write-up Guide for IDD Project

The write-up MUST be structured and reference to the guidelines below for the assessment.

There are five parts in write-up includes the IDD Project Overview, the IDD Areas and Integration, the Outcomes and Comparisons, the Conclusion, and the Appendixes.

This first four parts of the write-up shall be limited at a maximum of 15 pages only.
Please refer to Stage 1 – Online Submission, 1.1.4 for the font requirements.

i.   IDD Project Overview

- ✓ Elaborate on the problems, challenges, difficulties and limitations encountered for the IDD implementation at different disciplines, working levels, and execution process.
- ✓ Explain on the strategies for IDD implementation and the rational for the project team to adopted IDD.

ii.   IDD Areas and Integration

- ✓ Elaborate on the rational of selected KPIs for applicable IDD areas in your project.
- ✓ How the IDD framework, technologies, methods and innovative approaches overcame the problems, and challenges encountered in your project.

iii.   Outcome and Comparisons

- ✓ Explain how the KPIs were identified and measured, and its monitoring system and processes for it.
- ✓ Describe the challenges and limitations of the measuring system.
- ✓ Elaborate on the insights and benefits provided in the comparisons chart in the factsheet for project.

iv.   Conclusion

- ✓ Elaborate why the project should deserve an IDD award.
- ✓ If the project could start all over again, what would be your recommendations for it?
- ✓ Summarise with the project team's three salient points learned in projects and/or the top three strategies, technologies applied to overcome the difficulties encountered.
- ✓ Conclude with your plans moving forward with the pain and gains from this project.

v.   Appendix

- ✓ Appendix A. Project BIM/VDC/IDD Execution Plan
- ✓ Appendix B. Profile of BIM/VDC/IDD Manager and BIM/VDC/IDD Coordinator
- ✓ Other appendices (if any)