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"Speed has become an important element of strategy."

REGIS MCKENNA

The IndiaNext Initiative

The IndiaNext initiative is designed to endorse all possibilities of ideas that can make a difference to the nation and its people. With a vision to build a better, more resilient India, this collaborative and forward-thinking platform is annually offered to the most noted professionals and the brightest students from the engineering and architecture sector in a collaborative setting to bring forth solutions to some of the greatest challenges facing the nation.

The initiative endeavours to identify some of the most critical issues pertaining to our nation's development and create a framework where the best of engineers, architects and budding designers collaborate and leverage their expertise to find solutions for the same. In its previous editions, the competition has addressed critical areas such as Smart City Planning, Skill Development, Efficient Mobility & Public Transport, Water, Sanitation & Waste Management, Housing for a Bursting Population and Village Community Design.

The year 2020, without a doubt, was a watershed year for India and the world. In 2021, the situation necessitates us to rethink, realign and reimagine our collective future where stabilization and development of the nation's economy can take place concurrently and harmoniously, while still grappling with the virulent pandemic. In this 5th edition, the thrust is on the need for speed, using design and technology, to recover lost ground and help the nation achieve its goals.

THE CONTEXT

Advantage India

'The Elephant is about to run!'

Ranil Salgado, IMF Indian mission chief

The 21st century has been a defining one for India. On an even growth trajectory, India was steadily moving up the economic charts. Then, with a majority mandate, strong political governance was brought about with the much-needed impetus. With a young population of nearly 65% under the age of 35, India stood poised to power through its way to becoming the fastest-growing economy.

The Catalyst

Since 2014, the Indian Government has announced a series of reforms and measures (Pradhan Mantri Awas Yojana, Make in India, Swachh Bharat, Smart City Mission and Aatmanirbhar Bharat to name a few) that are definitive steps towards a defined vision, made visible to each and every citizen.

One such initiative 'Housing for All', via the Pradhan Mantri Awas Yojana (PMAY) scheme and Pradhan Mantri Awas Yojana Grameen (PMAY-G) has revived the interest in mass housing and low-cost housing on a national scale.

Further, to realise the government's objectives while keeping pace with world objectives, NITI Aayog (National Institution for Transforming India), the Government's think tank, helmed by some of the brightest minds in the country, has formulated a set of Sustainable Development Goals for 2030.

The stated vision of Niti Aayog is -

"By 2030, we must transform India into a prosperous, highly educated, healthy, secure, corruption-free, energy-abundant, environmentally clean and globally influential nation."

These programme directives are aligned to the Sustainable Development Goals (SDGs) as defined by the UNDP (United Nations Development Program). India has repeatedly reiterated its commitment towards achieving the SDGs and its associated targets, which comprehensively cover social, economic and environmental dimensions of development while focussing on ending poverty in all its forms and extent. It emphasizes, amongst other things, that no progress is tenable unless every citizen has access to basic housing.

As a directive from the Central Government, NITI Aayog has been assigned the role of overseeing the implementation of SDGs in the country and in turn, it has reached out to all the respective stakeholders to help reach the milestones. Of the 17 SDGs, SDG 11: SUSTAINABLE CITIES & COMMUNITIES relates most directly to the AEC sector. Among other targets, this SDG looks at eradicating homelessness (under the Leaving No one Behind initiatives implemented by the States), launching affordable housing schemes for the urban poor and elimination of *kutcha* homes from the urban and rural housing sectors.

Refer to the link to access the latest and previous SDG reports:
<https://www.niti.gov.in/reports-sdg>

Housing and the AEC Community

In the past, AEC professionals have shouldered the responsibility of addressing India's housing crisis by being actively at the forefront of the action. While the intent, commitment and focus still remain the same, now the challenges are manifold and more complex than ever before.

The pandemic has added to these challenges and the prolonged lockdowns during the most productive months of the years 2020 and 2021 have dealt a staggering blow to the construction industry. Specifically, it signified a layoff from active construction nationally, since March 2020, which has now resumed sporadically, albeit in varying degrees state-wise.

The aftershocks of the pandemic, migration of the workforce and disruption in supply chains have all accentuated the need for speed as the next step forward. At IndiaNext, it is our firm belief that we should not shift the goalpost but rather transform the way we approach it, overcoming the deficits and bringing about a transformative future in the housing sector. Done well these solutions can visibly enhance the lifestyles of the occupants, although done in a slipshod manner it can leave the vulnerable even more at sea.

Clarion Call for Engineers and Architects

Herein lies the opportunity for you, the nation builders, to articulate using speed as the driving force, a manner to build adroitly to address the new realities. This is where you can contribute significantly to the nation by swiftly fulfilling the housing deficits with good quality housing. In keeping with this, the theme for IndiaNext 2021 is befittingly **'Build with Speed'**.

Build with Speed, while respecting the context, is about anchoring design with the help of the latest technologies, processes and materials to recraft India's growth story. Engineers and architects have to ambitiously and courageously take up the challenge to fulfil the nation's promises, time being of the essence. In doing so, you will redefine your own role in India's post-pandemic future and claim your place in the sun.

The time is now. Step up, collaborate and show your mettle by thinking on your feet. To provide momentum to the building of homes in large numbers, the competition is looking to be a change leader by attracting proposals that are practical, and yet innovative enough to generate the kind of numbers that will enable us to reach the said targets for 2030. This will only become a reality if the AEC community recognizes that a paradigm shift in thinking and design are needed to resolve India's housing crisis.

THE CHALLENGE

The Categories

The projects may fall under any of these two categories:

1) Urban

The simplicity of the module, its ability to be swiftly executed and replicated with variants to allow for creating individual experiences while responding to the existing fabric of the city neighbourhood will be viewed with a critical lens.

In urban areas, the solution could be centred around the needs of:

- Daily wage workers who face an absence of adequate housing facilities and infrastructure.
- Slum dwellers dehousing by the infrastructure or development projects within the city.
- Rental housing for people who cannot afford to buy a house in the city.

2) Rural

This design challenge addresses the challenge of building a home within a cluster of others while retaining the community flavour of the area under consideration.

In rural areas, the areas of intervention include:

- Shelter for the homeless, for e.g., the people living on the fringes of the village.
- Homes for migrants who have returned home to make a new living for themselves.
- Low-cost mass housing solutions for the benefactors of PMAY-G schemes.

The solutions need not be limited to these user groups but can be also identified by you, specific to the chosen geographical area. The idea must necessarily address the issues of creating spaces where people can live with dignity. The provision of robust infrastructure, social spaces, small amenities can make a huge difference in the quality of life and hence must be an integral part of the proposal.

Guidelines for Urban Areas

Step 1: Adopt a Sustainable Development Goal

1. Download the SDG India Index Reports for 2020 and 2021 at: <https://www.niti.gov.in/reports-sdg>
2. Select a state and a key housing setback it has suffered, in an urban area.
3. Your solution must address this specific issue and should be closely related to the performance of that state with respect to the SDGs mentioned in the documents above. The reasons given by the participants for alignment to a particular SDG will hold special importance.

Step 2: Zero in on an Area that Needs Attention

1. An appropriate live site/neighbourhood must be identified within your chosen urban area with specific reference to its surroundings.
2. There should be evidence, either through field research or secondary sources that indicate the need for this intervention in that town or city. A strong case should be made for the selection by demonstrating the shortfall.

Step 3: Identify Cons of the Conventional Solutions (optional)

1. Outline the conventional solution – how many resources would this proposed project take in a typical manner of construction commonly used in that region. These include the time period for construction, material costs, the system of construction, transportation of labour etc.
2. While this is not mandatory, an analysis of the drawbacks of this conventional solution is recommended so that it can help make a case for your ‘Build with Speed’ idea that intelligently addresses the lacunae of the conventional solution.

Step 4: Your Innovative Idea

1. Propose an innovative design solution that primarily focuses on speed and reduces the time taken from ideas to realisation.
2. The focus should be to improve the speed of four key fundamental factors related to the building of any housing project, namely:
 - Design

- Technology
 - Processes
 - Materials
3. The number of families housed must be between 50 and 1,000.
 4. The carpet area of each unit must be not over 500 sq. feet (46.5 sq. mts.).
 5. The use of cement and concrete will definitely be preferred.
 6. The design must provide for infrastructure facilities, social spaces and amenities that can be built-in.
 7. Sustainability and green systems and materials will be an added advantage.
 8. The idea should be scalable and replicable at a national level.
 9. As an added aid, we have identified case studies (annexed herewith), both local and global, that showcase the theme of '**Build with Speed**' under the four factors mentioned above.

Guidelines for Rural Areas

Step 1: Adopt a Sustainable Development Goal

1. Download the SDG India Index Reports for 2020 and 2021 at: <https://www.niti.gov.in/reports-sdg>
2. Select a state and a key housing setback it has suffered in the rural area.
3. Your solution must address this specific issue and should be closely related to the performance of that state with respect to the SDGs mentioned in the documents above. The reasons given by the participants for alignment to a particular SDG will hold special importance.

Step 2: Zero on an Area that Needs Attention

1. An appropriate live cluster must be identified within your chosen rural area with specific reference to its surroundings.
2. There should be evidence, either through research or secondary sources that indicate the need for this intervention in that district or village. A strong case should be made for the selection by demonstrating the shortfall.

Step 3: Identify Cons of the Conventional Solutions (optional)

1. Outline the conventional solution - how many resources would this proposed project take in a typical manner of construction commonly used in that region. These include the time period for construction, material costs, the system of construction, transportation of labour etc.
2. While this is not mandatory, an analysis of the drawbacks of this conventional solution is recommended so that it can help build a case for your innovative 'Build with Speed' idea that intelligently addresses the lacunae of the conventional solution.

Step 4: Your Innovative Idea

1. Propose an innovative design solution that primarily focuses on speed and reduces the time taken for construction.
2. The focus should be to improve the speed of four key fundamental factors related to the building of any housing project, namely:

- a. Design
 - b. Technology
 - c. Processes
 - d. Materials
3. The area of each unit must be over 25 sq. mt.
 4. The number of families housed must be over 50.
 5. The use of cement and concrete will definitely be preferred.
 6. The design must provide for infrastructure facilities, social spaces and amenities that can be built-in.
 7. Sustainability and green systems & materials will be an added advantage.
 8. The idea should be scalable and replicable at a national level.
 9. As an added aid, we have identified case studies (annexed herewith), both local and global, that showcase the theme of **'Build with Speed'** under the four factors mentioned above.

THE ELIGIBILITY CRITERIA

For Architects & Engineers

The participating team must comprise at least 1 architect and 1 engineer. The combination of an architect and engineer is required to optimise the aesthetic and engineering aspects of the program.

For Students

The participating team size must not be over 4. The team must comprise at least 1 student each in the penultimate year/final year of engineering and architecture studies. The combination of an architect and engineer is required to optimise the aesthetic and engineering aspects of the program.

THE

SUBMISSION CRITERIA

- The entry/entries must be submitted online on the website **<https://ultratechindianext.com>**
- Name your submission files after your Unique ID number generated during the time of Registration.
(For e.g. For Unique ID IN1234, use file names as IN1234-01, IN1234-02)
- The total packet size of the entry should not exceed 100 MB in size.
- In case of any difficulties in uploading on the website, especially in case of walkthroughs, the submission can be sent via wetransfer or uploaded on any cloud storage [Google Drive] and the download link sent to info@ultratechindianext.com
- If submitting through WeTransfer or Google Drive, kindly provide the link in the required field in the submission form. Refer to file upload process on website for better understanding.
- The entry/entries must be submitted latest by 11:59 pm on 31st January 2022.
- The entry/entries must be uploaded within the given deadline. Any submission/s delivered later than the above-mentioned date will be disqualified, regardless of the reason.
- Every team is eligible to submit up to two separate entries. For this, you will need to generate separate unique identification codes. This will be confirmed via email to the registered email addresses.
- Each entry needs to be submitted separately with its unique identification code (received during registration).
- Do not combine multiple submissions using a single identification code.
- The design panels, walkthroughs and synopsis should not have the name of the participating team/s at any place. Any non-compliance will render the entry/entries disqualified.
- Each independent entry must be compliant with the specified guidelines.

Submission Format of Visual Representation

- The visual representation of the submission entry should be in two A1 Panels (pdf format only) in either landscape or portrait format.
- Participating teams are strongly encouraged to submit a 3D walkthrough as the best representation of the aesthetic appeal of their submission. The walkthrough must be in mp4 format only. Optional: If the participating team chooses to submit an audio-visual presentation of the proposal, it must be under 30 seconds in length and in mp4 format only.

Submission Format Details

Synopsis:

- The participating engineer and architect team/s must accompany the visual representation with a description of the concept in a synopsis of not more than 750 to 1,000 words.
- The synopsis document file must be in English. Any handwritten note or regional dialect texts will be deemed invalid.
- The synopsis must be typed in size 12 Calibri font and be double-spaced.
- The synopsis must address the following issues:
 - Adoption of the SDG chosen closely related to the gap identified for your state.
 - Zeroing in on the live site/ area that needs attention with supporting research or secondary sources of the need for intervention.
 - Identifying cons of conventional solutions and the completion of the project using conventional methods of construction (optional).
 - Your Innovative Idea with design-led proposals aided with technology, processes and materials for swift implementation schedules. The proposal must include design interventions, choice of technologies, structuring of processes and the materials palette.

Timelines:

- The submission must also include a Gantt Chart/ timelines with a comparison of the time saved vis-à-vis conventional construction methods.

Budgets:

- An estimated BOQ and cost calculations will be required (xls or xlsx format only).

Participants' Profile:

- A brief profile of the participating engineer and architect team in maximum of 2 pages must be submitted separately (doc or docx format only).

THE

EVALUATION CRITERIA

The entries will be judged on the following criteria by an eminent jury comprising of senior industry professionals:

1. Speed of Construction

- The entry/entries will be assessed on how fast and accurately the proposal can come to life and provide for the people under consideration.
- Special consideration will be given to proposals specifying the working details of the technology and material/s used that enable ease of construction along with a lower carbon footprint.

2. Quality

- Quality of Life: Due consideration to the quality of life, social spaces and regional nuances are to be made while proposing the solution. Here, the ancillary spaces that ensure a vibrant community will be a criterion.
- Quality of the Built Form: The entry/entries will be judged on the fact that it must be a value-added proposal and must set new benchmarks with respect to materials, performance and impact.

3. Longevity

- The entry/entries will be assessed on structural resilience and, solutions that outline the structural longevity will be given special attention.

4. Scalability

- The entry/entries will be judged on how the idea can be scaled up for further applications and the design's ability to sustain processes and practices.
- Special consideration will be given to entries that are easy to implement and replicate.

5. Technology

- The entry/entries will be assessed on the technology used for the construction and its impact on the project success. The entry will have to elucidate how the use of innovative building technologies assists in speedier implementation and construction of the proposed design.

6. Processes

- The entry/entries will be assessed on the structuring of processes to enhance speed and its contribution to the project success.

7. Material Used

- The entry/entries will be evaluated on how it has presented cement/concrete as the main medium through innovation, in association with any other local material. This can address the aspects of aesthetic expression, structural systems, fabrication or even finishing methods.
- The entry/entries will also be judged based on how the primary material has been used in juxtaposition with other medium/media (e.g., wood, glass, steel etc.) to highlight concrete's properties and present the overall idea with ingenuity.

7. Estimated impact

- The entry/entries will be assessed on their value addition towards the fulfilling of the SDG targets in the local region.
- Special consideration will also be given to its impact on the local community.
- The participants are encouraged to keep the project implementable as well as economically viable.

COPYRIGHT RULES

- Publishing copyrights to the winning entries will remain with the competition organizer, who also reserves the right to publish the entries in any media it sees fit.
- Competition entries must not infringe the copyright of any other work, either in whole or in part. If copyright infringement is found, the entry in question will be disqualified.

DISCLAIMER

- Please note that IndiaNext reserves the right to modify the competition schedule as it deems fit.