

Halls. In the second phase, 65,000 sq. ft. built-up area is being undertaken that includes Hostels, Guest House, Staff Quarters, Director's Pent House, etc.

As on March 31, 2013, the physical construction of academic and administrative block of the building has been completed from basement to 7th floors except for minor snag list. The construction of Residential Block of the building that was started in October 2011 is expected to be completed by December, 2013.

### **State-of-the-Art IT Infrastructure for New Building**

The INFLIBNET Centre placed purchase order to M/s. Siemens Enterprise Communication Pvt. Ltd. for system integration work for passive and active state-of-the-art

low voltage infrastructure solution for the INFLIBNET Centre's new building at Infocity, Gandhinagar. The solution includes layer 3 core switching with virtualisation and 40G/100G ready network with POE+ edge switches along with 10G uplink, IP telephony with high and mid range of IP phones, surveillance system, boardroom solutions, public addressing system & AV solution, high resolution video conferencing solution, state-of-the-art auditorium, visitor management system, dedicated and sophisticated tier-3 Data Centre with precision A/C, CAT 7A cabling with OM4 Grade Fibre, Building Management System (BMS) with automated fire detection, fire suppression, access control, biometric access control, sophisticated UTM (Unified Thread Management System). The total cost of solution is approx. Rs. 4 crores and will be completed within 3 months.

## Article

### **About Building of the INFLIBNET Centre : The Architect's perspective Sönke Hoof: Architect, Vāstu Shilpa**

In the past, the national headquarter of INFLIBNET was located at the residential blocks of Gujarat University in Ahmedabad, wherein residential apartments were being used to house the various units of the Centre. Needless to say, this makeshift arrangement was highly inadequate for the ideal functioning of the Centre. In order to remedy this, the Gujarat government allotted a piece of land at the capital Gandhinagar free of cost to the Centre, dedicated entirely for the construction of the new INFLIBNET Centre Campus.

The site, located at the Infocity precinct of Gandhinagar is not only part of one of the most advanced IT parks of India but is also in close proximity to other reputed educational institutions such as the National Institute of Design, Gandhinagar; Dhirubhai Ambani Institute of Information Communication and the National Institute of Fashion Technology. This proximity gives INFLIBNET, being a promoter of scholarly communication by networking libraries and information centres in universities and other institutions of higher learning, the opportunity to extend their virtual connection to a real physical one.

The given site is of extreme proportions, which greatly influenced the design of the building. It has a width and frontage of under 40 meter, but is around 250 meter deep. One of the most challenging aspects of the design was to effectively accommodate an entire institutional campus, with administration and offices, academic facilities, staff residences and a guest house, into this narrow strip of land with due consideration to setbacks.

To achieve this, the various parts of the program are not placed in separate blocks and buildings, like it is generally done in campuses with more generous land, but are housed within a single, consolidated, big structure stretching itself 150 meter over the site. A three storey high plinth contains all larger parts of the program, such as wide flexible spaces for offices, the classrooms and lecture halls and a large auditorium capable of accommodating 380 people. The library and other parts of the program with smaller space requirements are placed in slender building blocks, which rise tall over the plinth.

A large continuous, landscaped open space on top of this large plinth is tying the various parts of the building together and connects the entire complex. This elevated plaza level acts as the chief pedestrian activity center of the building. Being on the third floor, the mid-level of the building, one forgets that the building is actually a large high-rise complex and oneself is already at a height of 15 meter. The plaza's level is about the canopy of trees which surround the site; the views are long and far beyond the boundaries of the own site; at this height, the natural cooling breeze is unobstructed. Planters and water bodies surrounded by seats invite to rest and give opportunity to gather for impromptu discussions. Every circulation core is connected to this plaza, giving access to the vertical movement through the building. The large open main staircase leads from the front of the building to the plaza level, cutting its way through the volume of the plinth. Another flight of stairs connects the plaza through the guesthouse in the end of the building to the garden space at the back of the plot.

One major concern while working on the design was an adequate response to the extreme climate during the hot summers of Gujarat. The long elevations of the site and the building are facing east and west, which can lead to great heat gain, if not dealt with correctly. We found the solution in thick cavity walls. Besides having a much higher insulation value than standard single walls, the space within the walls allows running all main services, flexible and independent of the main structure of the building. Further, the windows are placed at an angle and thus always shaded, only reflecting indirect light deep into the workspaces. Like this we could maximize the use of natural lighting, which is supported by adaptive artificial lighting.

The hot and dry climate of the area is ideal for the use of an air-evaporative cooling system, which uses a minimal amount of energy to bring down room temperatures within the human comfort zone. In order to avoid any build-up of humidity, the Air Handling Units (AHUs) are advanced 2-Stage machines and sufficient "leaking" of the building is ensured by the typical window design and additional mechanical fans.

To minimize noise pollution and to maximize the intake of fresh air, the AHUs are placed on the terraces of the building. Ducts in the outer cavity walls distribute the cooled air into the individual floors, where it is supplied into the rooms through vents in the false floor, which acts

as a plenum. Supplying air by the means of this displacement ventilation method further reduces the energy cost, as air can be supplied to the room at higher temperatures. Insulated walls and fully shaded windows with DGU glass assure low temperatures of surrounding surfaces to reduce discomfort due to radiation. This 2-Stage Air-Evaporative-Cooling System will cool all office areas and circulation spaces.

Areas with a temporary heavy load of people, such as meeting rooms, classrooms and the auditorium, or areas, which are more sensitive against humidity, such as server rooms and the library, will be cooled by the conventional AC system.

It has been estimated that the layout and detailing of the building is reducing the energy consumption of the building by 50% when compared to a standard contemporary, air-conditioned office building. With the use of our innovative HVAC system, the power consumption is further reduced by another 19%, hence resulting in far less energy consumption even by the current standards.

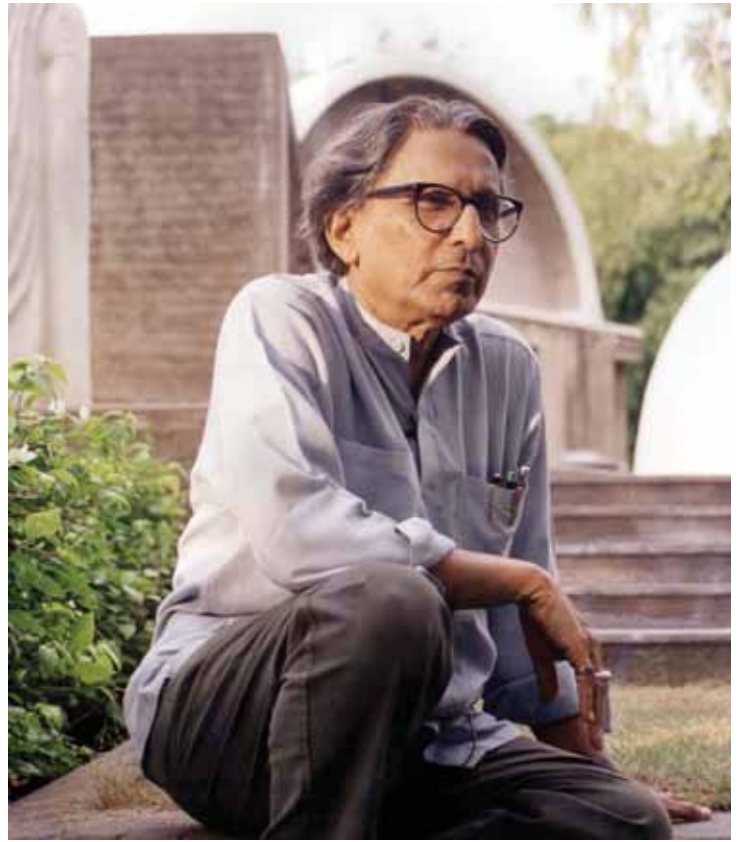
The new INFLIBNET Centre reflects a certain sensitivity towards the design approach and an attitude that takes in due consideration not only the functional but also the contextual aspects. It makes the most of the available resources without resorting to adding unnecessarily onto the design as well as not compromising in the overall spatial experience. From the design of a structure that plays with the space that has been allotted to it, by creating a multitude of volumes and spaces to incorporating an air-conditioning system that couldn't be more befitting to the overall context; the main design attitude reflected here is using and enriching what is readily available and thereby contributing to the enrichment of the environment that moves beyond the confines of the site boundary.

### **The interiors**

The role of interior design is key in defining the very identity that defines an architectural space. The various factors such as the light, ventilation and circulation may be staple in any architectural design factor, but interior design focuses on another vital aspect that is the day-to-day use and requirement of the users and inhabitants who occupy the building. Hence in defining the attitude of the building space we also define the attitude of the users.

Keeping this in mind, the concept of the interior design was determined to be designed the soul of the space, more so creating the soul of the building. Referring to Vedic scriptures, where the human soul is divided into seven elemental rings or 'chakras', each highlighting a certain mood and attitude of the human spirit, each floor of the building was assigned an elemental colour shade as per the hierarchy established by the chakras. Maximum consideration was put into the fast of befitting the nature of the work environment into the attitude or mood of the colour.

Bearing in mind that the new INFLIBNET Centre is located in the state of Gujarat, while visualizing the colour palette for the interiors the scenery of Gujarat was considered in order to reflect the context of the location be in the internal spaces. From the warm hues of beige and brown to the sparseness of the white to the colourful accents of a multitude of vibrant shades, all come together to create the soul of Gujarat within the interiors. Like INFLIBNET's approach to sharing information, the Centre's interior is really about the new way of doing things. It's the inspiration to push the boundaries and challenge the way of thinking; a break from the old, the opportunity to branch out in new directions. It facilitates greater collaboration and allows creating different types



*Shri Balkrishna Doshi, Founder Vastu Shilpa*



*Shönke Hoof : Architect of INFLIBNET New Building*

of work environments under one roof. Flexibility and adaptability are the key.

The proposed interior combines a passion for intelligent and ergonomic design with a desire to create a new generation of environmentally sustainable solutions for a modern, ever-changing workspace. The inspiration is to challenge the way we work by facilitating a collaborative and open work environment that stimulates new ideas. The role of selecting the right furniture is key in determining the overall experience of the interior environment. Since users will spend maximum time

utilizing the furniture to carry out the daily activities, it is essential that the furniture selected have a right mix of comfort, ergonomics, style and individuality.

Architecture can be thought of as a manifestation of the human spirit. A structure may well be symbolic of the external shell of the body and the space enclosed can be definitive of the soul of the design. In order to fully understand and appreciate the structure it is imperative that one experiences the spaces that define it. Such should be the role of good architecture.





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