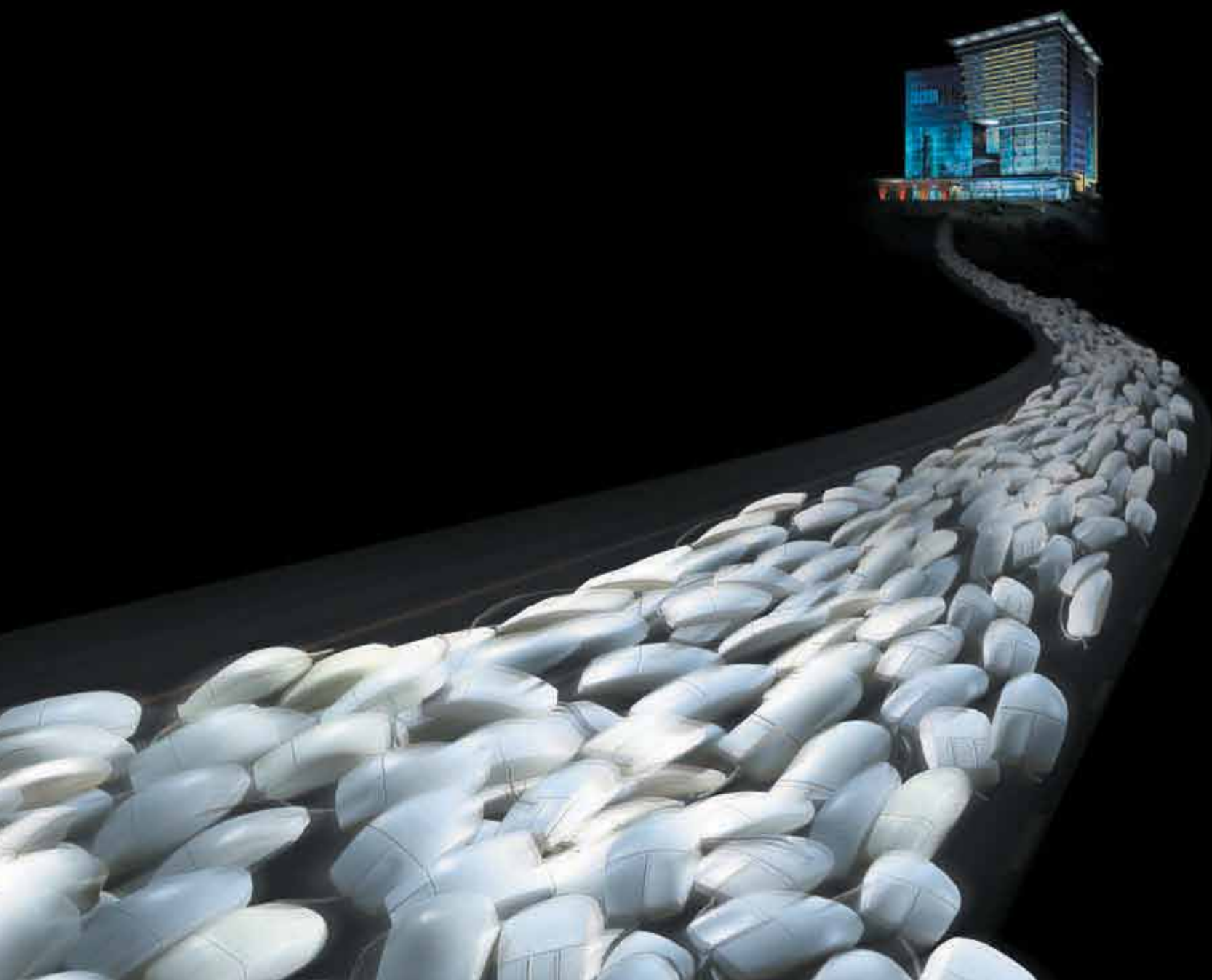


# Technopolis

India's First LEED Certified IT Infrastructure



## Kolkata-the 24x7 Metropolis

The city of Kolkata has a grand heritage. Kolkata has produced some of the best brains and best minds of the past century. The city is considered to be the knowledge capital as well as the culture hub of India.

Kolkata is now witnessing a stupendous growth in the IT and ITES industry. Between 2001-2004, Kolkata experienced a growth rate of 70 percent against the industry national average of 36 percent. Some of the distinctive features of the city are as follows:

- ☐ Highest per capita spent on education
- ☐ More than 67 Engineering Colleges
- ☐ Some of the best ranked educational institutions like :
  - Indian Institute of Technology, Kharagpore
  - Indian Institute of Management, Kolkata
  - Indian Statistical Institute, Kolkata
- ☐ Lowest cost of living among all metros
- ☐ Lowest employee attrition level
- ☐ Only state to give Public Utility Services status to the IT and ITES industry
- ☐ Permission to allow women to work in nightshifts

Considering the immense potential of the city, Phoenix Software Limited is coming up with India's first LEED certified Green IT infrastructure- Technopolis, a 4,25,000 sq.ft. workspace constructed as per the specifications of the US Green Building Council at Sector-V, SaltLake.

**Technopolis** is the other name of a fresh new concept that visualizes the modern day workplace as an organic living structure.

**Technopolis** is a complete system, self-contained and self-rejuvenating.

**Technopolis** will initiate a new-age Green revolution at the workplace.

Working at Technopolis can augment productivity by several notches. The Green specifications provide an environment that generates positive energy within the entire building. Technopolis adds a new meaning to superior work environment.



*Welcome to Technopolis*

<i>Workspace</i>	<i>4,25,000sqft</i>
<i>Car parking Space</i>	<i>450</i>
<i>Completion Date</i>	<i>June 2006</i>



## *How Green is your milieu?*

“We exist therefore we are” says Albert Camus. Following his trail we say “Green exists therefore we are”. In modern work environment or for that matter in IT and ITES sectors where people work in stringent work schedules, a clean, green eco- friendly ambience is more than necessary.

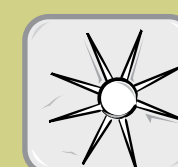
Green Buildings are the need of the future. They can reduce the operating costs by 30%, provide the best of indoor air quality and ensure health and safety for the employees thereby ensuring a high level of productivity.

Technopolis is India's first IT infrastructure that conforms to the U.S. Green Building Council's LEED certification. This council was formed in 1993 with the objectives to create a consensus for producing a new generation of buildings that helps deliver high degree performance inside out. Infact San Jose, the Silicon Valley of the world is one of the firsts to recognize the benefits of Green building and adopt the Green Mandate.

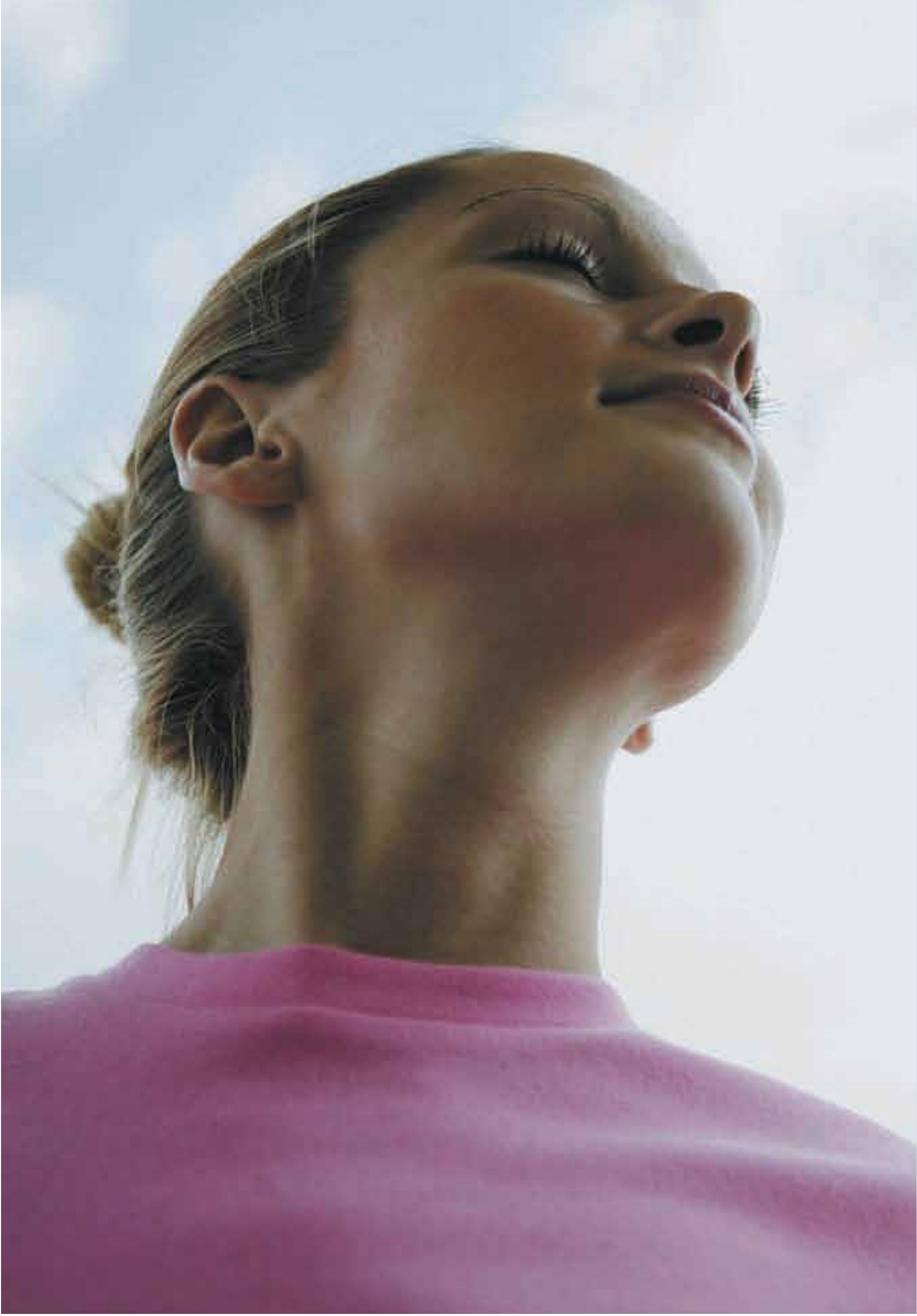
In accordance to the stringent LEED pre-requisites, Technopolis promises :



- ☐ Healthy indoor air quality
- ☐ 30% reduction in energy consumption
- ☐ Water and waste water management
- ☐ 100% recycle of waste - zero discharge into sewer







## Take a deep breath

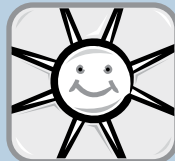
Fresh air is the fountainhead of energy and inner force. It is the essence of purity and peace of mind. Like any conscious work ambience, Technopolis offers 24x7 fresh oxygen-rich air. Special fresh air treatment units and online CO2 monitoring sensors recycle and refresh the air inside thus optimising the Indoor Air Quality (IAQ).

- Designed as per ASHRAE guidelines of 20 cfm fresh air per person
- Double skin Treated Fresh Air units (TFA) with Heat Recovery Wheels (HRW) to optimise the IAQ
- Intelligent Humidification Controls
- Online CO2 monitoring to avoid Sick Building Syndrome (SBS) and provide a healthier IAQ



The Indoor Air Quality is facilitated by an exclusive Heat Ventilation and Air Conditioning (HVAC) System.

- 2 x 600 TR centrifugal chillers along with 1 x 400 TR screw chiller
- High efficiency cooling towers from Marley, USA
- Online side stream filters in condensers to avoid derating of chillers
- Double skin Air Handling Units with Variable Frequency Drives (VFD)
- Standby chiller and secondary pumps
- Toilet & pantry ventilation system using imported Kruger make inline fans
- Ductless ventilation system in basement car parking areas



*Better Indoor Air Quality (IAQ) will result in better health for employees, better productivity, lower attrition and lower operational cost.*






*Energy conserved is energy earned*

Today’s society should use energy efficiently and conserve it for future use.Technopolis will use energy efficient equipments resulting in huge savings in energy bills.While the building itself is scientifically designed to allow maximum amount of sunlight in throughout the day, the low U factor double glazing ensures minimum heat gain. All the motors and pumps are equipped with variable frequency drives (VFD) and variable speed drives (VSD) monitored and regulated by an Integrated Building Management System (IBMS) to optimise energy consumption.

Technopolis is designed to reduce the energy bills by more than 30% compared to conventional IT parks.

- ☐ Use of double glazed units with low U factor & solar heat gain coefficient
- ☐ Chillers with a very high COP of more than 5
- ☐ Chillers and secondary pumps with VSDs
- ☐ Double skin Air Handling Units with VFDs
- ☐ Treated Fresh Air Units (TFA) along with Heat Recovery Wheels (HRW) to reduce energy consumption
- ☐ Online monitoring & controls through state of the art IBMS



*Conservation of energy will save energy bills by 30%. This will ultimately lead to lower operating cost.*





## *Recycle - Preserving the Future*

Technopolis will have superior water and wastewater management. Two bore wells - one working and one standby will be the primary source for all water requirements. In addition, a two-days' storage capacity has also been built in. There will be a sewage treatment plant to recycle 100% wastewater that would be reused for cooling towers, flushing and horticulture. Also there will be rainwater harvesting for ground water recharge.

- ☐ Water distribution through dual feed line by hydro pneumatic system
- ☐ Multi stage water treatment system
- ☐ Water efficient sanitary fixtures like aerated taps, waterless urinals, dual flush units
- ☐ Waste water recycling for non potable purposes
- ☐ 100% waste recycle - Zero discharge infrastructure
- ☐ Rainwater harvesting for ground water recharge



*Fresh water consumption reduced by more than 50% will result in lower utility taxes and lesser dependences on municipal authorities.*



## *Infrastructure for future*

Technopolis is not just a green infrastructure. It is truly next generation - a robust infrastructure that is efficient as well as environment friendly. It is a work-place for people that will have the maximum impact on their well being and a minimal impact on the environment.

It encompasses the use of energy efficient and eco-friendly equipments, efficient use of water, use of recycled and recyclable materials and provides healthy indoor air quality.

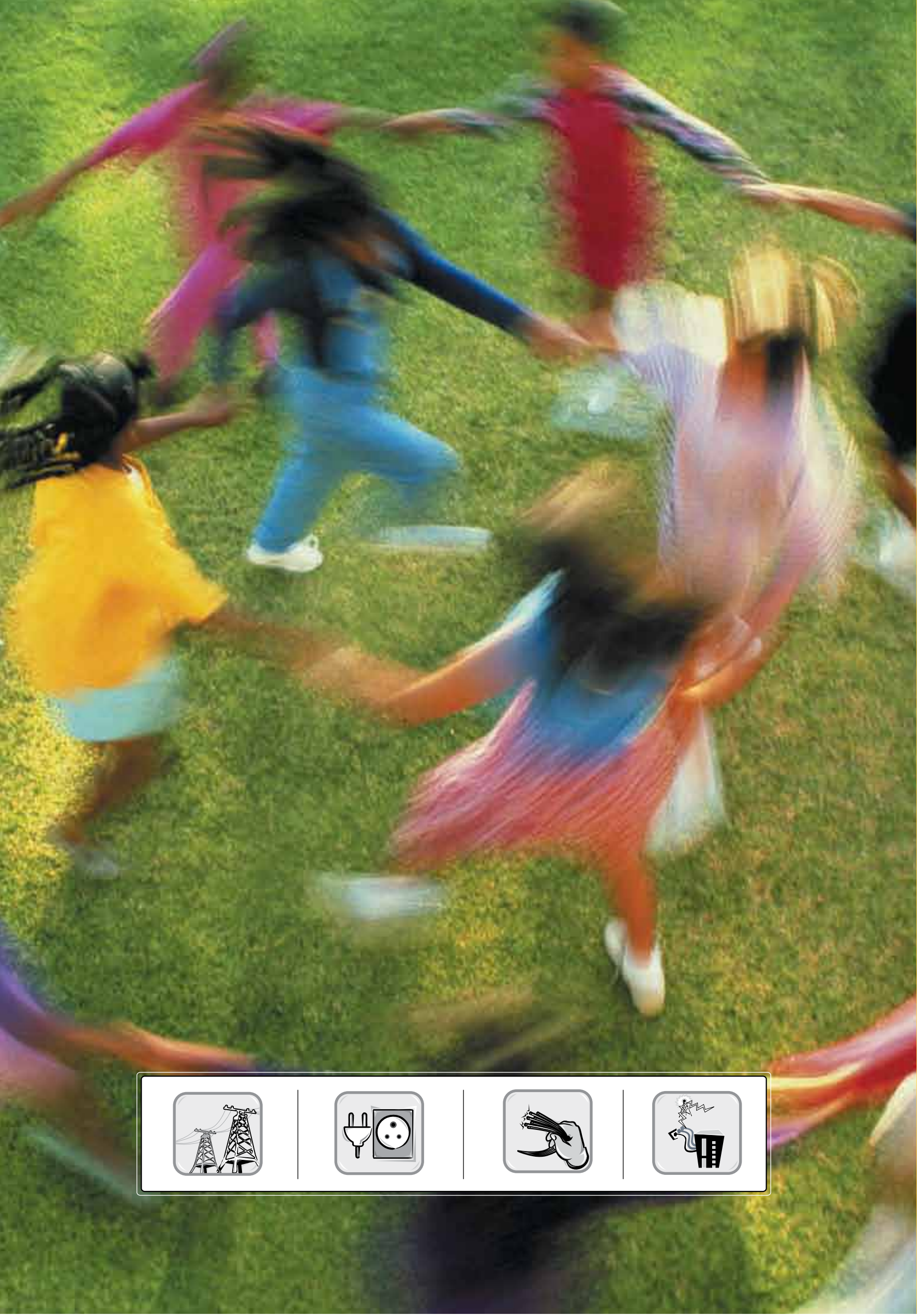
An exhaustive Integrated Building Management System continuously monitors and controls the entire functioning of Technopolis. It helps in optimising consumption and also supports predictive and preventive maintenance round the clock.

The system engineering of Technopolis provides for dual systems, spare capacities and interchangeability at all levels to ensure redundancies in the entire electro mechanical system.

Technopolis is a completely new shift in paradigm!







## *Uninterrupted power supply for uninterrupted business*

Disruption in power is a cause of concern for all technology companies. The power distribution system at Technopolis ensures uninterrupted supply against any exigencies. High-tension power will be supplied by a no load shedding substation created by WEBEL exclusively for IT and ITES companies. As an extreme measure of caution, Technopolis will also be connected to an alternate substation of WBSEB, in case of disruption in the WEBEL grid. Furthermore, 100% power backup is created by installing adequate DG sets. A standby DG set is planned as well, in case there is any failure. An automatic changeover ensures that power is always available 24x7. That's why Technopolis is a shockproof IT infrastructure!



- ☐ Connected to 2 supply grids with onsite automatic changeover
- ☐ 2 transformers of 2500 KVA each
- ☐ 2 parallel bus rising mains with a provision of inter changeability at each floor level
- ☐ Power distribution through resin bonded copper bus bars and couplers
- ☐ 100 % power backup from 5000KVA capacity diesel generator sets with AMF panels
- ☐ Elaborate earthing system for all electromechanical equipments
- ☐ Provision for dedicated high depth earth pits for client needs

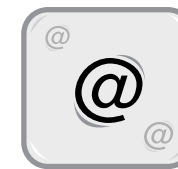
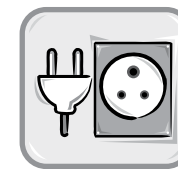




## Communication & Connectivity

Technopolis promises a highly developed connectivity and communication system for its occupants. Complete infrastructure for last mile connectivity will be giving maximum freedom to end users of alternate 100 Mbps bandwidth options for data processing transfer and voiceover IP.

- Broadband connectivity through optical fibre cabling and Wifi
- Broadband service providers to provide VPN, IPCL, MPCL, landline telephony, ISDN and GSM services under one roof
- Installation of MUX at the premises to ensure uninterrupted service
- Multiple service provider to ensure better redundancies
- Alternate hubs and riser for each service provider
- Proposed earth stations to ensure bandwidth back up
- Dedicated telephone exchange offering ample connections essential for ITES



*Multiple service providers, plug and play facilities and redundancy in bandwidth will provide a robust communication backbone.*





## *The warmth of safety*

A safe and secure workplace is one of the primary concerns of most IT and ITES companies. At Technopolis, adequate care has been taken by installing an exhaustive fire detection and fire fighting system. Furthermore, care has been taken to ensure safer evacuation of people in case of a fire.

- ☐ Multiple wet risers with underground water reservoir of 2.5 lac litres capacity
- ☐ Double layered intelligent smoke / heat detectors
- ☐ Double layered sprinkler & smoke detectors
- ☐ Web enabled fire detection system
- ☐ Optional fire repeater panels as per occupier needs
- ☐ Special smoke extraction fans
- ☐ Differential pressure in stairwells for smoke free evacuation
- ☐ Multiple evacuation points and refuge platforms for human safety



Technopolis guarantees a round the clock security set up.

Intelligent CCTV cameras along with an intelligent access control system ensure that only authorised people have access to the workspaces. Furthermore, the system is designed to handle extensive security and monitoring needs of its clients.

- ☐ Access cards with RFID based e- purse
- ☐ Retractable flap barriers at all entrance points
- ☐ Automatic boom gates in parking areas
- ☐ Intelligent cameras for access controls



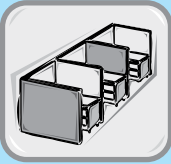


Space Efficiency

Technopolis is designed to optimise utilisation of space. High ceilings, wide column spans and flat post-tensioned slabs allow complete flexibility in design and furniture layout.

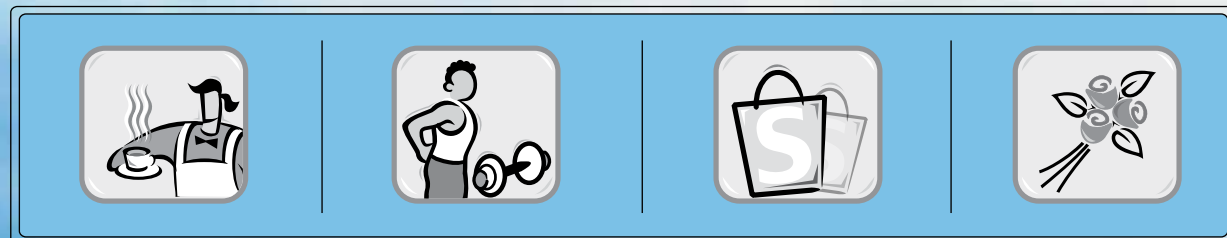


- 11 metre plus column span
- Large floor plates of 35,000 - 40,000 sq. ft.
- High ceilings of 4.1 mtrs.
- Post tensioned beamless flat slabs
- Specially designed structures for UPS Rooms
- Service ledges for installing specialised climate control units for server rooms



Large floor plates bring in flexibility in design i.e. ease of drawing services, more workstations in same space.





## *Amenities and Lifestyle*

Technopolis offers a high-tech business centre catering to the needs of its occupants. A well - equipped fitness centre will ensure that the employees get the opportunity to rejuvenate themselves without having to go elsewhere. Care has been taken to ensure various options for food and beverages between work intervals.

- ☐ Two 35 seater Wifi auditorium with built in work stations
- ☐ Conference and training rooms
- ☐ Onsite recruitments and interview rooms
- ☐ Nirvana: The international standard fitness centre
- ☐ Burp: a 500-seater multi cuisine Food court
- ☐ Oz: A 100 seater restrobar
- ☐ CaféCricket: A 125-seater coffee shop

## *Convenience for Comfort*

Technopolis will offer its occupants some selective convenience add-ons while working for longer duration.

These include:

- ☐ Pharmacy, convenience store
- ☐ ATMs
- ☐ Laundromat
- ☐ Florist
- ☐ Gift/books/music stores



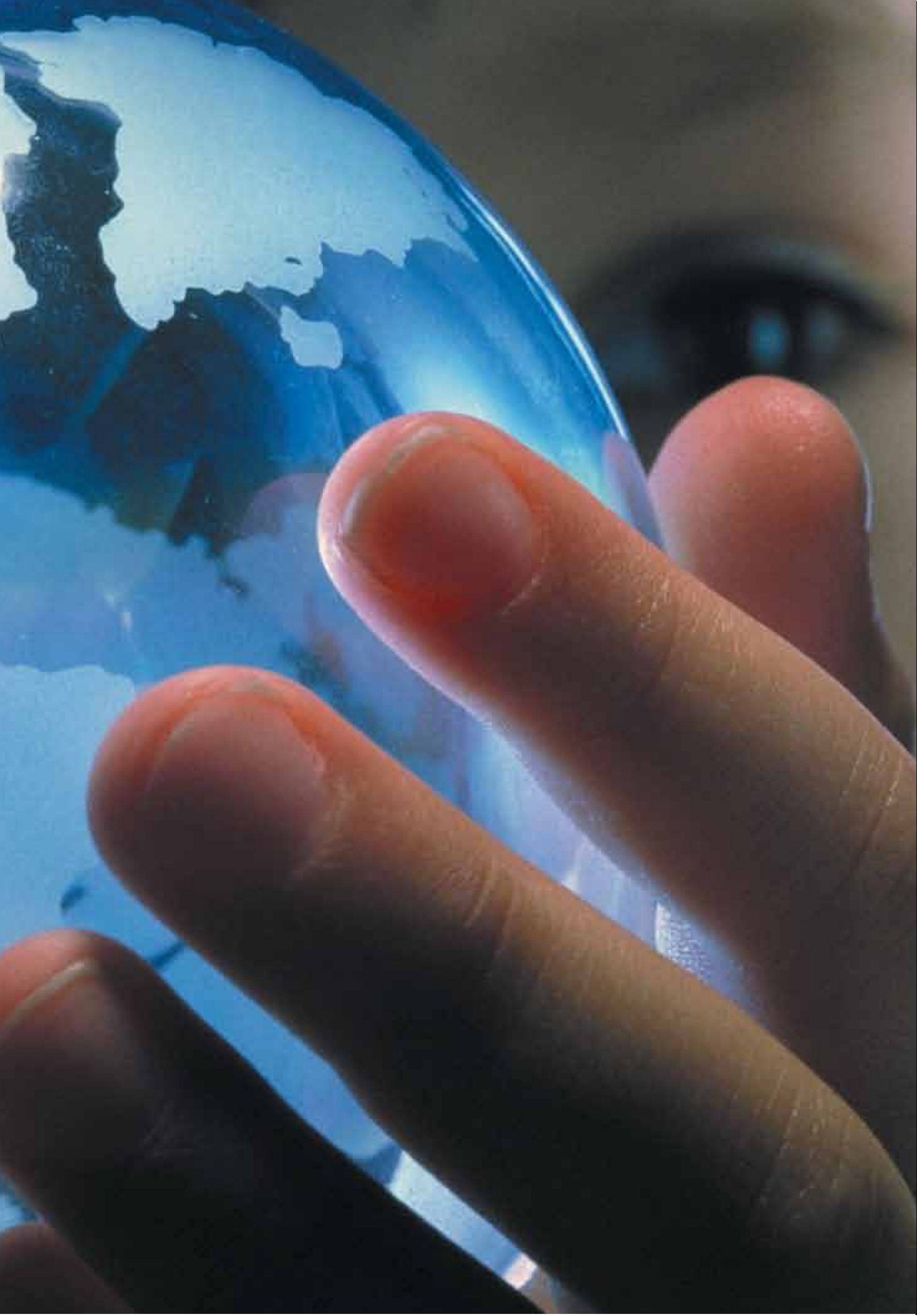




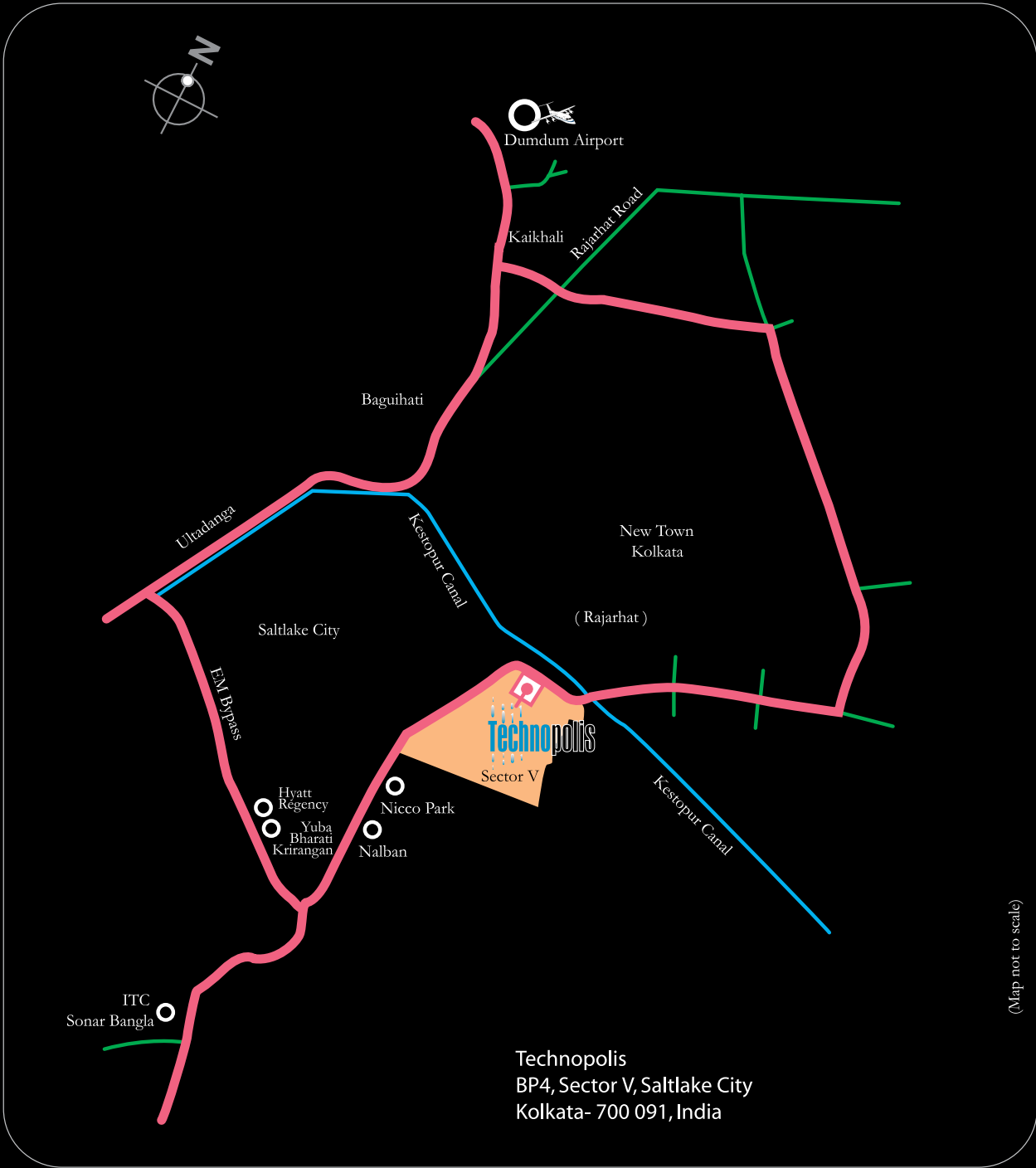
*It's the team that counts*

Developer	Phoenix Software Limited, Kolkata
Consultants	
<input type="checkbox"/> Principal Architect	Agrawal & Agrawal, Kolkata
<input type="checkbox"/> Structural Consultant	Meinhardt (Singapore) Pte Ltd, Singapore SPA Consultants, Kolkata
<input type="checkbox"/> Interior Consultant	Worksphere Architect, Mumbai
<input type="checkbox"/> Green Building Consultant	CII, Hyderabad
<input type="checkbox"/> Energy Consultant	Environmental Design Solutions, New Delhi
<input type="checkbox"/> Ground water Consultant	Ardem Centre for Resource Development & Environmental Management
<input type="checkbox"/> Electrical Engg.	Entask Electrics, Bangalore
<input type="checkbox"/> HVAC	Air Treatment, Bangalore
<input type="checkbox"/> Sanitary & Plumbing	SK Associates, Bangalore
Vendors / Contractors	
<input type="checkbox"/> Civil works	Ahluwalia Contracts(India)Ltd, New Delhi
<input type="checkbox"/> Post tension work	VSL, Chennai
<input type="checkbox"/> Ready Mix Concrete	Larsen & Toubro Ltd, Kolkata ACC Ltd, Kolkata
<input type="checkbox"/> Reinforcement	SAIL & TISCO, Kolkata
<input type="checkbox"/> HT Switch Gear	Siemens Ltd, Kolkata
<input type="checkbox"/> Transformer	Kirloskar Power Equipment Ltd, Kolkata
<input type="checkbox"/> LT Switch Gear & Panels	Schneider Electrics India (P)Ltd, New Delhi
<input type="checkbox"/> Bus Ducts & Rising Mains	Schneider Electrics India (P)Ltd, New Delhi
<input type="checkbox"/> Double Glaze Units	Emirates Glass LLC, Dubai
<input type="checkbox"/> Elevation Works	Alfa Aluminium, Kolkata Glasswall, Mumbai Nitson Atlitsu (Dorman Work), Kolkata
<input type="checkbox"/> Elevators	ETA-MELCO (MITSUBISHI), Dubai
<input type="checkbox"/> HVAC	Blue Star, Kolkata
<input type="checkbox"/> Diesel Gensets	Tractors India Ltd, Kolkata
<input type="checkbox"/> Fire Protection	Siemens Ltd, Kolkata
<input type="checkbox"/> IBMS	ABB, Kolkata
<input type="checkbox"/> Access Control	Scores Information Technology Ltd, Delhi
<input type="checkbox"/> CCTV/ Controls	ADACS Security Technology, Taiwan





*Network Neighbourhood*



*Technopolis is strategically located at the crossroad of Salt Lake Sector V, the current IT hub of West Bengal and the new township of Rajarhat, the IT destination of tomorrow.*

*Technopolis Neighbours: IBM, TCS, Wipro, Cognizant, PricewaterhouseCoopers*





Phoenix Software Limited  
4/1 Red Cross Place  
Kolkata-700 001  
India  
Tel: +91-33-22420279  
Fax: +91-33-22487843  
E-mail: [contact@technopolis.in](mailto:contact@technopolis.in)  
Visit us at : [www.technopolis.in](http://www.technopolis.in)  
Aditya: +91 98318 01297

