

**PRESENTATION ON  
3S PRECAST  
CONSTRUCTION TECHNOLOGY**

**B.G. SHIRKE CONSTRUCTION TECHNOLOGY  
PVT. LTD., PUNE (BGSCTPL)**

## Preview

- Indian Construction Sector
- Indian Housing shortage - Peculiarities
- Sustainable Technology – Guiding Principles
- Completed Projects in 3S Prefab
- Documentary on 3S Technology

## CONSTRUCTION SECTOR – INDIAN SCENARIO

- Construction Sector - Largest consumer of natural resources - water, sand, crushed rock, gravel, minerals, timber etc. ...limited natural resources!!
- Growing population and rapid urbanization and industrialization is increasing the demand for housing, energy, clean water & air, safe & rapid transport etc..
- Construction Industry dependant on manufacturing industries like cement, steel and aluminium; which are amongst the most energy intensive.
- Sustainable Building Technology is therefore of vital importance to overcome the threat to our standard of living and more importantly to the entire fabric of life support system on which the planet earth is dependent.

## ADOPTION OF NBC - WAY FORWARD

<b>Mega Cities (8)</b>	Population of over 50 Lakhs – <b>Delhi, Mumbai, Kolkata, Chennai, Bangalore, Hyderabad, Ahmedabad, Pune</b>
<b>Metro Cities (45)</b>	10 to 50 Lakhs
<b>Municipal Corporations (121)</b>	5 Lakhs and above
<b>City Municipalities (A class)</b>	1 Lakh and above
<b>Town Municipalities (B &amp; C class) / Town Panchayats</b>	5,000 – 1,00,000
<b>Rural Areas</b>	

53 million plus cities/urban agglomerations – 70 by 2021

74

# Mitigating the Urban Housing Needs!!

**Source – Talk By Mr Sanjay Pant, BIS  
at Municipalika on 18May2017**

## PECULIARITIES OF HOUSING SHORTFALL

- House – Permanent asset!
- Major Development projects in above segment – undertaken by Govt./Semi Govt. Bodies
- Peculiarities of these Projects -
  - Conformity with Indian Codal provisions, DC Rules, NBC provisions, Environmental Clearance etc.
  - Proven and Time tested technology, buildings to be durable for min. 50 years
  - Speedy execution, Construction material etc.
  - Minimal supervisory control and maintenance

## PREFAB TECHNOLOGICAL INFLUX

Considering the Potential Indian Housing Market –

- The Equipment Manufacturers all over the world are focusing Indian Constructors with various technologies.
- Aim is to sell the equipment – Not manufacture precast components!
- Grey Areas
  - Probability of proliferation of Untested, Untried Construction Technology in Indian Geoclimatic Context
  - Non - Availability of Codal provisions
  - Non - Availability of Skilled manpower
  - Lack of performance evaluation and Certification
  - Suitable eligibility criteria for executing agency

## Sustainable Technology

Some guiding principles in adopting the sustainable alternative building technologies -

- Energy conservation
- Minimize use of high energy materials
- Concern for environment
- Environment-friendly technologies
- Minimize transportation
- Decentralized production and maximum use of local skills
- Utilization of wastes for the production of building materials
- Recycling of building wastes
- Use of renewable energy sources.

Time-tested, proven prefab building technologies meeting these principles could only be sustainable thereby facilitating the energy resources sharing more efficiently, causing minimum damage to the environment.

# **B. G. SHIRKE CONSTRUCTION TECHNOLOGY PVT. LTD.**

**COMPANY  
OVERVIEW**





- ✓ Multi-disciplinary civil, mechanical and electrical engineering company serving India since 1944 having dedicated team of about 12,000+ workforce.
- ✓ 'Industrialization of Civil Engineering' – Mission accomplished!
- ✓ Pioneered '3-S' prefab building system way back in 1972.
- ✓ Manufacturer of construction equipments and state of art building materials
- ✓ Diversified into
  - Power and Telecom sector – Transmission Lines & Microwave Towers
  - Infrastructure Developments – Roads, Bridges, Flyovers, Oil & Gas
  - Post Harvesting System – Grain Storage Silos and Material Handling
  - Hospitality and Recreation



# PIONEERS OF PREFAB BUILDING CONSTRUCTION IN INDIA

## OUR STRENGTH and ACHIEVEMENTS

- Work experience in India and overseas over 4 decades
- Constructed over 2 lac Tenements (6.5 crore sft) in India and overseas in all climatic conditions, rainfall areas and seismic zones

*Till date, no other Indian construction agency has executed such prefab mass housing works!*

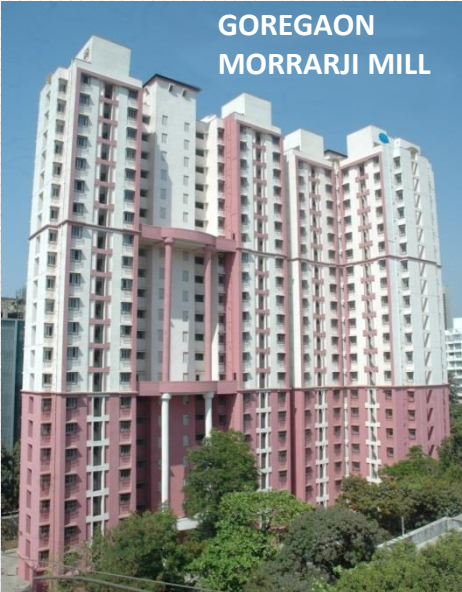
- Executed India's 1<sup>st</sup> High-rise Prefab Housing Project (39 Towers of 25 Storeys, ≈10,000 tenements )
- Currently executing India's SINGLE LARGEST Prefab mass housing projects (69000 dwellings) on Turnkey basis for Delhi Development Authority
- All proven resources and mechanized construction systems under one roof



# UNIQUE CAPABILITY – MEGA PREFAB PROJECTS



**CIDC Vishwakarma  
Award-2012  
Best Project  
Housing and Urban  
Development  
Category**



**GOREGAON  
MORRARJI MILL**



**NEW HIND MILL MAZGAON**



**kandivati morarji mill**



**Standard mill sivree**

## INDIA'S FIRST HIGH RISE PREFAB HOUSING PROJECT

- 39 Towers of 25 Storeys
- ≈10,000 tenements

# **UNIQUE CAPABILITY – MEGA PREFAB PROJECTS**

**INDIA'S SINGLE LARGEST PREFAB MASS HOUSING PROJECTS**

**Undertaken for Delhi Development Authority**



**Part I : ≈ 20,000 EWS Tenements  
(Completed)**

# UNIQUE CAPABILITY – MEGA PREFAB PROJECTS

**INDIA'S SINGLE LARGEST PREFAB MASS HOUSING PROJECTS**

**Undertaken for Delhi Development Authority**



**Part II ≈ 30,000 EWS & LIG Tenements**

# **UNIQUE CAPABILITY – MEGA PREFAB PROJECTS**

**INDIA'S SINGLE LARGEST PREFAB MASS HOUSING PROJECTS**

**Undertaken for Delhi Development Authority**



**Part III ≈ 5200 EWS & 2 BHK Tenements**

**Part IV ≈ 14000 Tenements!!**

The first construction company of its kind to get an ISO 9001 (23<sup>rd</sup> July 1996) Accredited with IMS i.e. Integrated Management System which covers ISO-9001 (Quality Management System)



**ISO-14001 (Environmental Management System)**



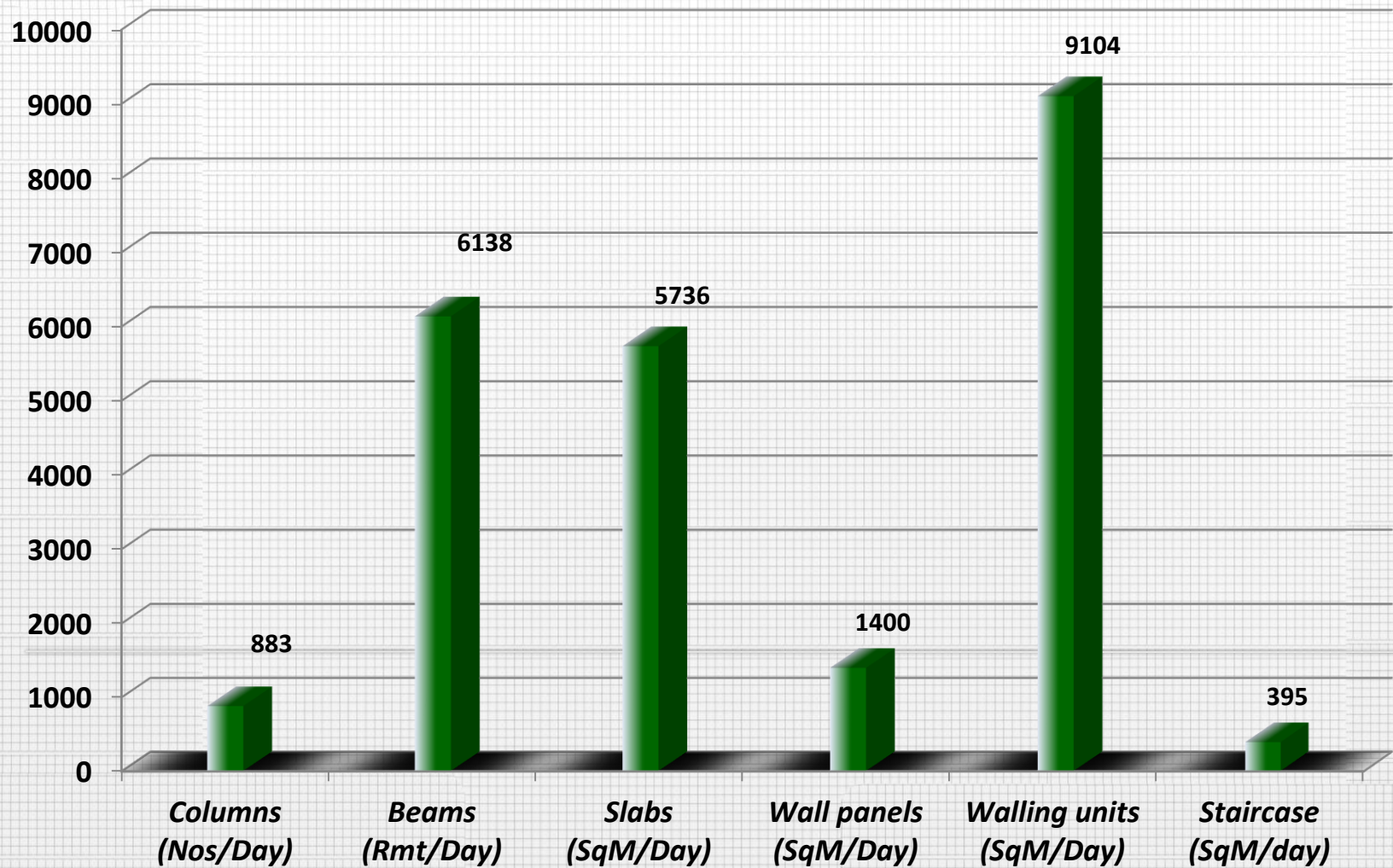
**OHSAS-18001 (Occupational Health & Safety Assessment series)**

## Strengths –

- Pioneers and undisputed leaders in prefab technology in India
- Pre-cast housing - our core business and strength
- Biggest constructor of mass housing in India
- Asia's largest pre-cast factory at Delhi
- Most integrated construction company in its class in India
- Most mechanized construction company in its class in India
- Powered by a large talent pool of experienced and devoted Engineers, Architects, Designers, Technologists along with a skilled workforce
- More than 750 Well qualified engineers and over 15000 labour
- Construction Equipment and Machinery worth more than Rs. 650 crores



# INSTALLED DAILY PRECAST PRODUCTION CAPACITY



**SNAPSHOTS OF  
PROJECTS IN 3S PREFAB  
CONSTRUCTION**

**S+24 STOREYED MASS HOUSING PROJECTS ON MILL LANDS IN MUMBAI**

TOTAL AREA : 41,98,950 SFT

NO. OF FLOORS : S+24 STOREY

**GOREGAON MORRARJI  
MILL****kandivali morrarji mill**

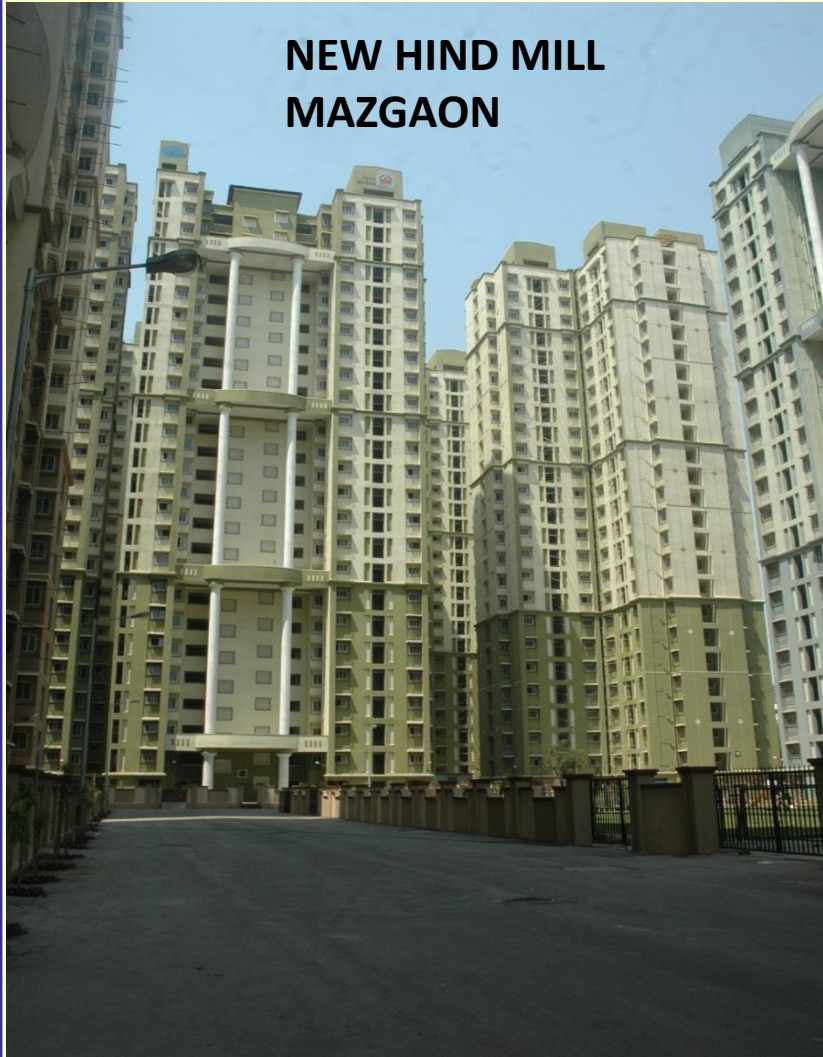
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**NEW HIND MILL  
MAZGAON**



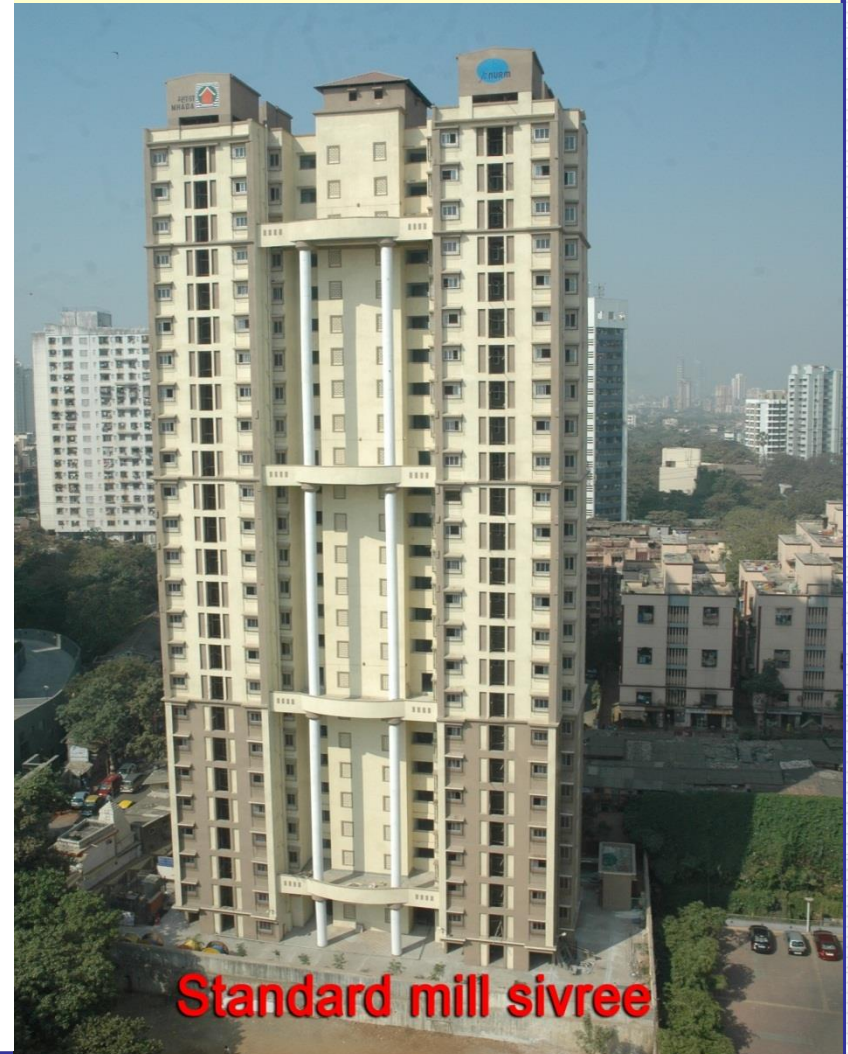
**Shreeram Mill Worli**



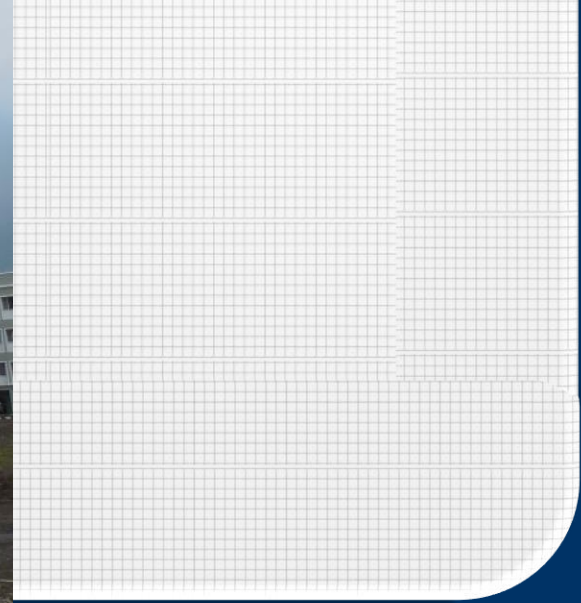
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**SIMPLEX MILL BYCULLA****Standard mill sivree**

# S+3 HOUSING PROJECT FOR MAHARASHTRA POLICE WELFARE HOUSING AT KARAD, SATARA



# **G+14 CONSTRUCTION OF MIG & HIG TYPE TENEMENTS AT SECTOR 36, KHARGHAR NEW MUMBAI**

**TOTAL AREA : 16,66,000 SFT**



**B+S+18 STOREYED MASS HOUSING PROJECTS FOR BDA AT  
DODABANHALLI**

TOTAL AREA : 7,53,000 SFT





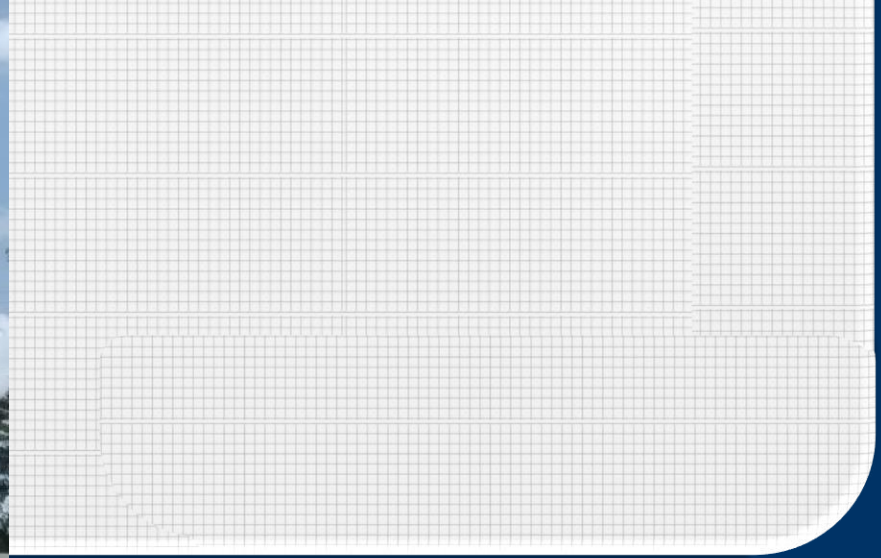
# MASS HOUSING PROJECTS FOR MHADA AT MALWANI, MUMBAI

## 2632 EWS TENEMENTS



अत्यल्प उत्पन्न गट गृहनिर्माण योजना, मालवणी मालाड (प.), मुंबई

S+7/10 Storeyed LIG & MIG Building Housing Project for Mhada at Solapur, Maharashtra



# P+S+14 Storeyed LIG, MIG & HIG Turnkey Lump sum project at Morwadi, Pimpri, Pune





**MASS HOUSING LIG, MIG AND  
EWS HOUSING PROJECT FOR  
MHADA AT MHALUNGE, PUNE  
(Phase I Completed)**



# B, C and D Type quarters for Judicial officials at Byapanhalli, Bangalore (BUA - 7,18,000 sft)





**Cluster of  
buildings having  
60 houses  
completed within  
3 months**

**DELHI  
(ROHINI, NARELA  
& DWARKA)**

**TOTAL AREA  
64,92,900 SFT**



**DELHI - (ROHINI, NARELA & DWARKA)**

# S+7 STOREYED PROJECT FOR BANGALORE DEVELOPMENT AUTHORITY AT KENGERI BANGALORE



**S+9 STOREYED PROJECT FOR BANGALORE DEVELOPMENT AUTHORITY**  
**AT KANIMINIKE, BANGALORE (PROJECT UNDER EXECUTION)**  
**(7.68 Lakh Sft BUA, 3BHK, 432 Tenements)**



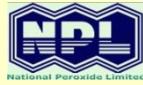


**OTHER PROJECTS  
COMPLETED**

**NPL TOWER, MUMBAI**

TOTAL AREA : 3,81,827 SFT

NO. OF FLOORS : S+30 STOREY

**TRUE VALUE HOMES (TVH), CHENNAI**

TOTAL AREA : 11,95,971 SFT

NO. OF FLOORS : B+GR+18, 9 TOWERS



**IITM RESEARCH PARK, CHENNAI****TOTAL AREA : 5,50,000 SFT****NO. OF FLOORS : 2 B+G+11 STOREY****WIPRO, BANGALORE****TOTAL AREA : 13,38,500 SFT****NO. OF FLOORS : 2 B+GR+14 STOREY**



**SOFTWARE TECHNOLOGY PARK,  
NAVI MUMBAI  
TOTAL AREA : 1,20,573 SFT  
NO. OF FLOORS : G+11 STOREY**



**INTERNATIONAL TECH PARK,  
BANGALORE  
TOTAL AREA : 4,72,299 SFT  
NO. OF FLOORS : G+11 STOREY**



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NAVI MUMBAI  
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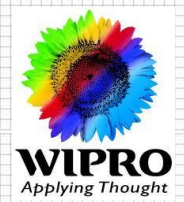
**INTERNATIONAL TECH PARK,  
BANGALORE  
TOTAL AREA : 4,72,299 SFT  
NO. OF FLOORS : G+11 STOREY**



**WIPRO, CHENNAI**

TOTAL AREA : 3,20,000 SFT

BUILD CONTRACT



**YAMUNA, PUNE**

**“LEED PLATINUM RATED  
GREEN BUILDING”**

TOTAL AREA : 1,25,000 SFT

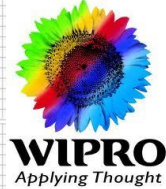
BUILD CONTRACT



**WIPRO, HYDERABAD**

TOTAL AREA : 1,55,000 SFT

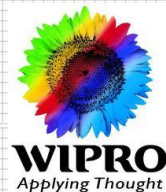
BUILD CONTRACT

**WIPRO, PUNE**

**"GOLD RATED GREEN BUILDING"**

TOTAL AREA : 6,31,602 SFT

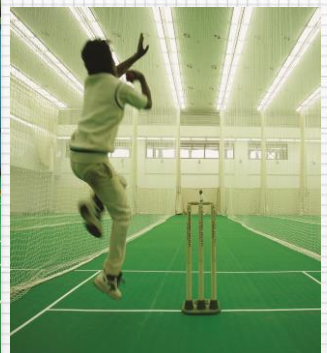
BUILD CONTRACT



**INDOOR CRICKET ACADEMY & RECREATION CENTRE,  
MUMBAI**

TOTAL AREA : 12,00,000 SFT

DESIGN, BUILD, OPERATE & TRANSFER CONTRACT



**STATE OF THE ART INDOOR CRICKET  
ACADEMY AND OTHER FACILITIES**





**FACILITIES :**

- MAIN ATHLETIC STADIUM
- INDOOR BADMINTON HALL
- SWIMMING POOL
- 10M / 25M / 50M SHOOTING RANGE
- CENTER TENNIS COURT
- WRESTLING HALL
- BOXING HALL
- TABLE TENNIS HALL
- WEIGHT LIFTING HALL
- FITNESS CENTER
- SPORTS SCIENCE CENTER
- HOSTEL FACILITIES

**3<sup>RD</sup> COMMONWEALTH YOUTH GAMES, PUNE**

**TOTAL AREA : 6,01,864 SFT**



**SHOOTING RANGE - 50 MTRS**



**BADMINTON HALL  
with 150 m span**



**WEAPON STORE**



**WRESTLING HALL**



**BOXING HALL**



**MAIN ATHLETIC STADIUM**



**Suvarna Soudha, Belgaum**



**INAUGURATION AT THE HANDS OF  
H.E. THE PRESIDENT OF INDIA**



**H.E. THE PRESIDENT  
ADDRESSING THE  
INAUGURAL JOINT SESSION**



# OVERSEAS PROJECTS



**HOUSING PROJECT COLOMBO**  
**TOTAL AREA-6,09,000 SFT**



**RIYADH** : COMMERCIAL-CUM-RESIDENTIAL COMPLEX COMPRISING OF A TEN STOREYED BUILDING WITH MODERN ELECTRO-MECHANICAL AMENITIES AND LIFTS, AUTOMATIC FIRE FIGHTING SYSTEM, ETC.



**RIYADH** : AUDIO LIBRARY

**RIYADH** : 160 ROOM HOTEL

**RIYADH** : 10 STOREYED OFFICE COMPLEX FOR BANK



**KARAMA DUBAI** : RESIDENTIAL COMPLEX WITH ALL SERVICES.



**DUBAI** : BUILDING COMPLEX, WITH ALL SERVICES IN THE GUSAIS AREA