MiCoB®

Merging Art, Automation and Construction

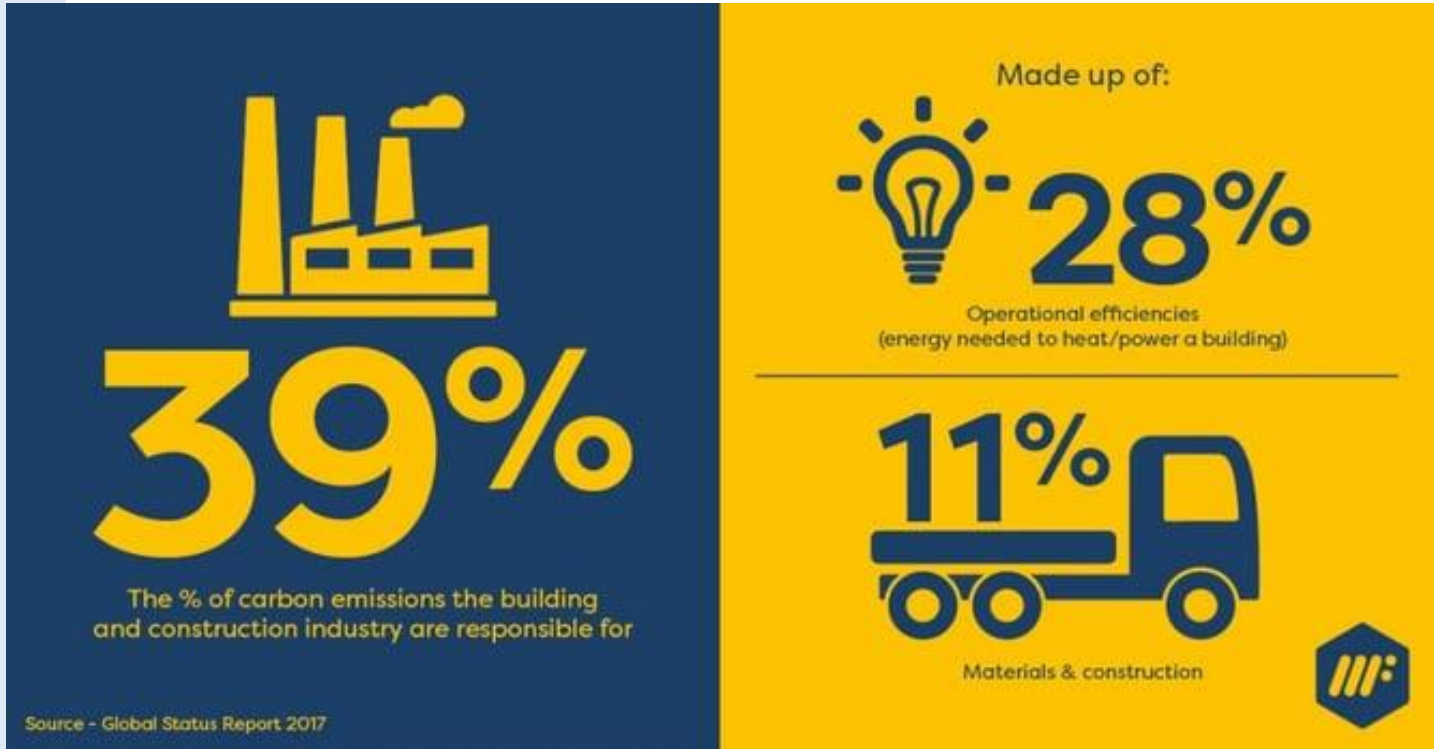
Innovative Solutions for a Sustainable Future !!!

Delivering Sustainability, Aesthetics and Speed using 3D Concrete Printing technology

Pain-Points of Construction Industry

MiCoB®

Annual construction waste is expected to reach **2.2 BILLION TONS** globally by 2025.



The Pain-Killer

MiCoB®

Robotic construction

- Minimum labor
- Higher productivity

No need of formwork

- Ease of creating complex and optimized structures
- Minimal construction waste

Optimized 3D Designs

- Low material consumption
- Thermally efficient designs

Robust quality control

- Minimal human intervention
- Automated feeding, mixing, pumping and 3D printing

BIM and MEP integration

Video Link

We have built for Hills

MiCoB®

We have built for Deserts

MiCoB®

We have built for Coastal regions

MiCoB®

We have built for Highest Earthquake Prone Areas

MiCoB®

We have built for National Security

MiCoB®

ANI
@ANI
Official

3D-printed permanent defences have been constructed for first time by Indian Army's Corps of Engineers in desert sector. These defences were trial tested against a range of weapons from small arms to the main gun of T90 tank: Indian Army's Engineer-in-Chief Lt Gen Harpal Singh

6:53 PM · Nov 15, 2022 · Twitter Web App

345 Retweets 12 Quote Tweets 3,358 Likes

MiCoB's Expertise and Strength

3D Concrete Printers

Economic

Customizable

Automated

Advanced

Tested and Approved

Ballistic tested

Highest Seismic and Wind Zones

Extreme Geo-climatic conditions

Empaneled Defence Contractor

High- Performance 3DCP Mix

Economic

Customizable

Versatile

Sustainable

Project Execution

Specialized team

Code-compliant design

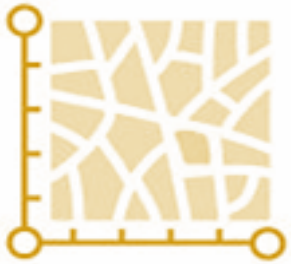
Customer education

After-sales support

Potential Unlocked

13 States
Across borders and civil zones

50+ 3DCP Structures
Pan India

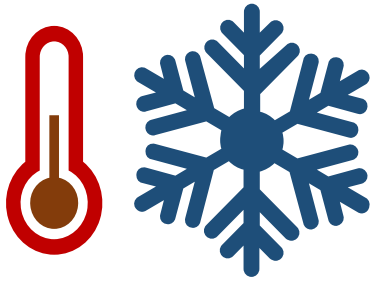


150,000+ sq. ft
Built-up area

10,000+ tons
Material saving

High Altitude
Up to at 18,500 Feet

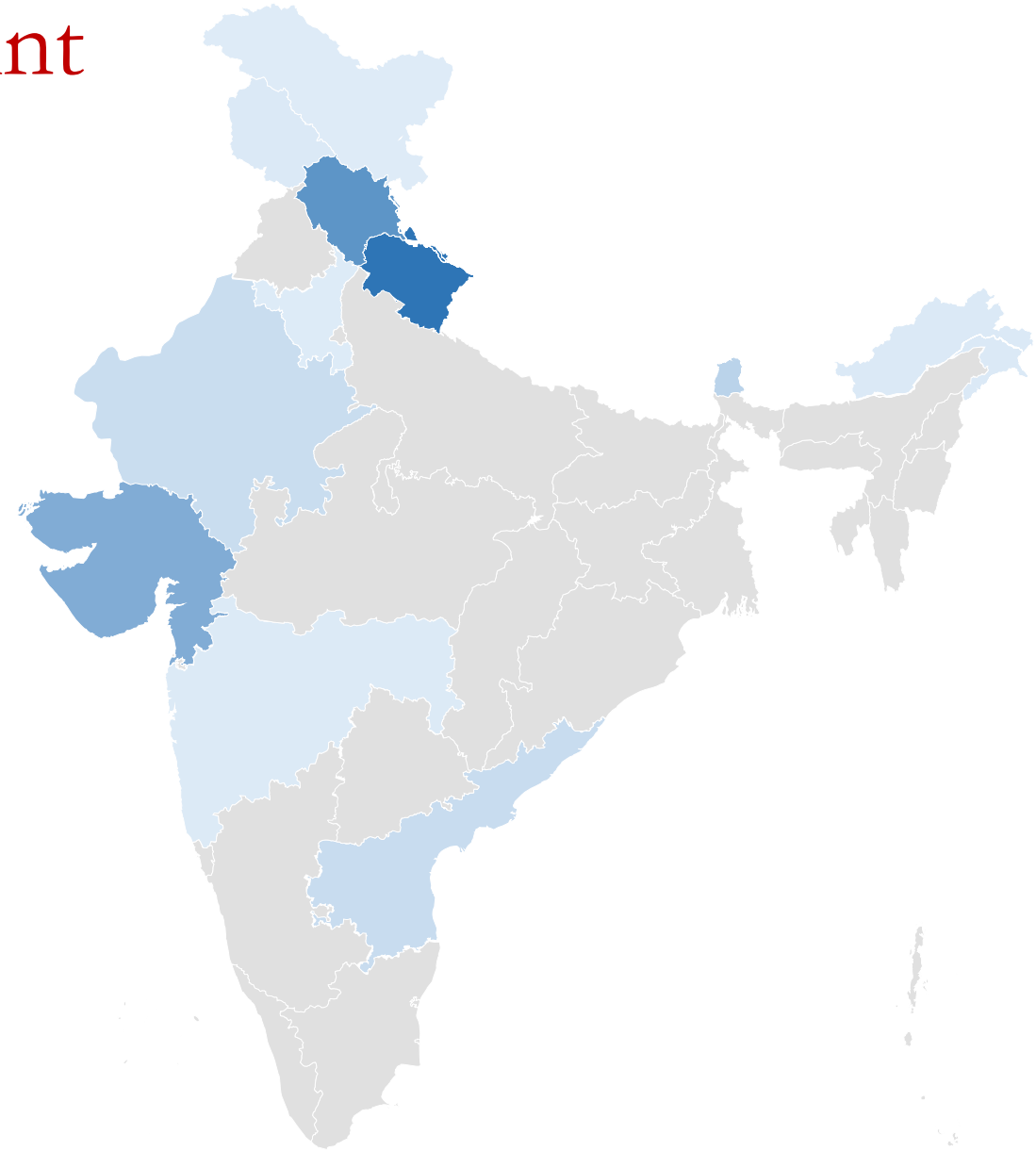
Impact and blast Resistant
300+ Anti-tank Bunkers



Extreme Climate
-20 °C to +50 °C

Disaster Proof
Up to Seismic Zone V and intense wind

MiCoB's Footprint



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Use Cases - Military

MiCoB®

300+ Impact and Blast resistant bunkers delivered
5,000 Bunkers to be delivered in next 2 years

Construction time reduced from 45 days to 7 days
Higher Ballistic performance compared to Conventional bunkers

Hindustan Times

lia World Cities Entertainment Cricket Lifestyle Astrol

al Trending Quickreads Daily Digest Festivals Quiz

Army to construct next-gen 3D-printed bunkers at LAC

India News

Updated on Nov 16, 2022 03:06 AM IST

The Indian Army will construct modular, 3D-printed, next generation bunkers to provide better protection to front-line soldiers guarding the country's border with China in the Ladakh sector.

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Use Cases - Residential and Commercial Buildings

MiCoB®

- Upto 50% reduction in construction time
- Better thermal and sound insulation due to air voids in the wall. Lower HVAC cost/ higher building energy efficiency due to air voids.
- No need of external plaster
- No efflorescence which generally happens in the brickwork/masonry, hence reduced maintenance
- Higher building life due to extra cover to structural members

Use Cases – Hospitality Sector

MiCoB®

- Reduced operational costs

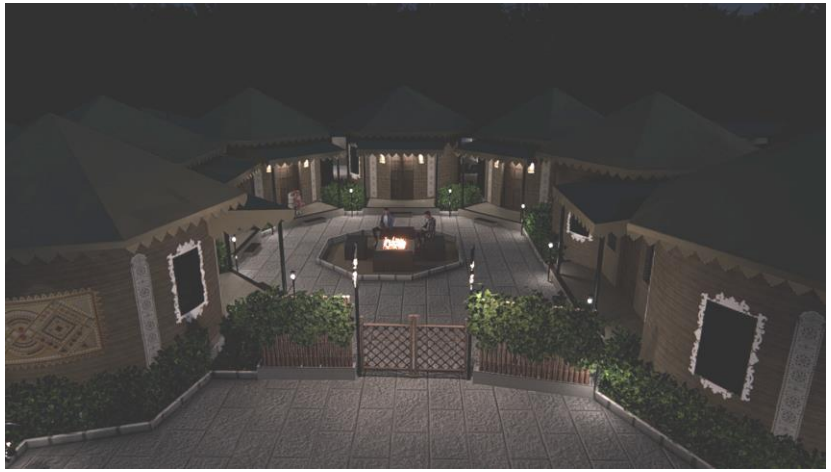
Better thermal and sound insulation due to air voids in the wall. Lower HVAC cost/ higher building energy efficiency due to air voids.

No efflorescence which generally happens in the brickwork/masonry, hence reduced maintenance

Higher building life due to extra cover to structural members

- Early revenue generation potential

Video Link



Use Cases – Transmission Industry

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Cable Trenches, Drains and Earth Pits



Stores and Warehouses

Foundations, Retaining walls and Fire Walls


Boundary walls


Use Cases - Infrastructure

MiCoB®

Marine Stabilization

Tetrapod

Culvert

Global developments by Competitors

Bridge decks (post-tensioned) | Piers / columns | Water storage tanks

Wind turbine foundation | Retaining wall and barriers

Use Cases – Data Centers

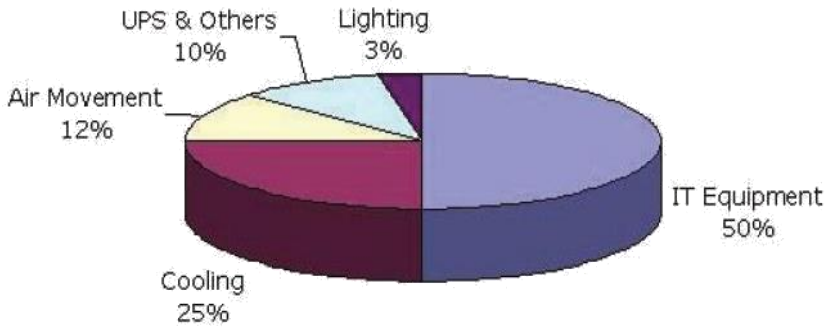
MiCoB®

Indian Market

- Located in Hot and Humid regions
- Government push for PUE < 1.35 *
- Expected to grow from 2GW load to 5GW by 2030

Key focus –

- Operation efficiency
- High reliability
- Sustainability
- Reduced Total Cost of Ownership



Power Usage Distribution in a Data Center

Source: Bureau of Energy Efficiency, Government of India, titled, Energy Efficiency Guidelines and Best Practices in Indian

Impact with 3D construction

- 1 MW capacity Data Center would require additional 500 kW in cooling and 250 kW in air circulation, resulting in an annual cost of approximately Rs. 4 Crore (considering Rs. 6 per kWh and 99% uptime)
- A 10% saving in the cooling and air circulation with potential annual saving of Rs. 40 Lakh per MW of IT Load. Over a period of 10 years this could be approximately Rs 4 Crores savings (on same cost basis).
- Higher life compared to PUF Panels/Dry walls, low maintenance, and Better Fire Rating
- Marginal cost increment for adoption ~ +70 Lakh / MW
- Faster to market, and early revenue generation potential

Why MiCoB, Why Now?

Why MiCoB?

- State-of-the-art construction technology
- Faster Project Timelines
- Proven and recognized Technology
- Track Record of Excellence
- Precision and Scalability
- Innovative Aesthetics
- Geo-climatic Solutions
- Seismic Resilience
- Environment
- Waste Management

Why Now?

- Growing demand for sustainable and scalable construction
- Manpower is the bottleneck resource
- Technology is getting cheaper
- Time is money
- Project Predictability Defines Credibility

MiCoB: Your pioneering partner in innovation!

Key Delivered Projects

3D Printed Warehouse

Lakadia Bhuj
Gujarat, India

Plinth Area: 2250 sq. ft.
Clear height: 20 ft

4 Months

adani Transmission

Electricals' warehouse
3DCP Wall Panels
Traditional foundation
PPGI roofing

Seismic Zone V

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Cottage / Bunga

MiCoB®

THE FERN HOTELS & RESORTS
Leading environmentally sensitive hotels

KamNath® Group

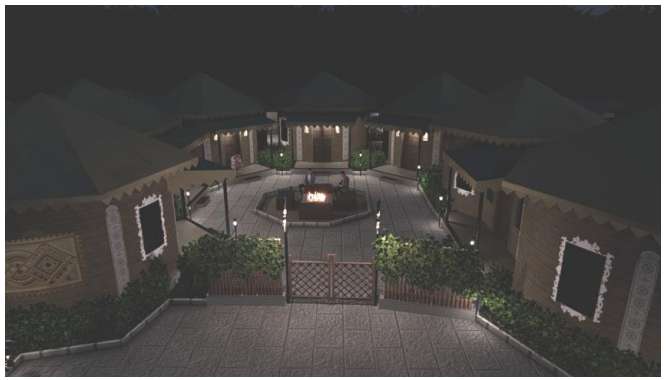
Nagoa Beach, Diu

Highly Corrosive Environment

2 months

12,000 sq.ft.

Video Link



G+2 Staff Accommodation

MiCoB®

- Total Plinth area ~ 6500 sq.ft
- Construction time ~ 5 months
- Location – Visakhapatanam
- Client: GE - Naval Depot, Indian Navy
- 3D Printed Concrete Wall Panels as Façade
- Project video

G+1 NCO Accommodation

MiCoB®

- Total Plinth area ~ 1700 sq.ft
- Construction time ~ 3 months
- Location – Ahmedabad Cantt
- Client: GE - Ahmedabad, Indian Army
- 3D Printed Concrete Wall Panels
- Project video

Air Traffic Control Hut

MiCoB®

- Total Plinth area ~ 970 sq.ft
- Construction time ~ 1.5 months
- Location – Pune Airport
- Client: GE - Lohegaon, Indian Airforce
- 3D Printed Load-bearing Reinforced Concrete Panels
- Project video

Officer JCO Living

MiCoB®

- Total Plinth area ~ 1300 sq.ft
- Construction time ~ 3 months
- Location – Walong, Arunachal Pradesh
- Client: Indian Army
- 3D Printed Concrete Wall Panels

ORL Shelter

MiCoB®

- Total Plinth area ~ 2450 sq.ft
- Construction time ~ 3 months
- Location – Barmer, Rajasthan
- Client: Indian Army
- 3D Printed Concrete Wall Panels

Studio Apartment

MiCoB®

- Total Plinth area ~ 400 sq.ft
- Construction time ~ 3 months
- Location – Jodhpur, Rajasthan
- Client: IIT Jodhpur
- 3D Printed Concrete Wall Panels

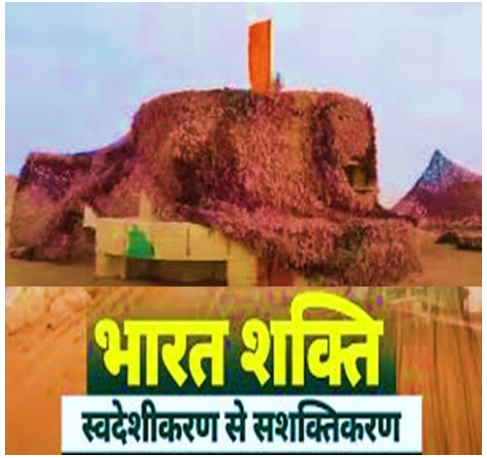
Double Storey ORL Shelter

MiCoB®

- Total Plinth area ~ 10,500 sq.ft
- Construction time ~ 12 months
- Location – Zuluk, Sikkim
- Client: Indian Army
- 3D Printed Concrete Wall Panels

Recognitions and Support

MiCoB®



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Department of Science & Technology Government of India

Azadi Ka Amrit Mahotsav

Startup

75

IMPACTFUL STARTUPS

DST INCUBATION PROGRAM

iDEX Innovations for Defence Excellence

PM Awardee 2021

MEITY TIDE 2.0

GLOBAL HOUSING TECHNOLOGY CHALLENGE INDIA

प्रधान मंत्री आवास योजना-शहरी
Pradhan Mantri Awas Yojana-Urban

PRE PROTOTYPE STAGE WINNER

NIDHI PRAYAS

Best Way to Predict the Future is to Create it !

-Peter Drucker

MiCoB®

Let's Print the Future !!!