



Bureau of Energy Efficiency



सत्यमेव जयते  
Government of India  
Ministry of Power



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DEUTSCHE ZUSAMMENARBEIT

**giz** Deutsche Gesellschaft  
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# ANGAN

## Augmenting Nature by Green Affordable New-habitat

A Courtyard for Revolutionary Change in Building Energy Efficiency

An International Conference on Building Energy Efficiency

9<sup>th</sup>-11<sup>th</sup> September, 2019 | Hotel The LaLiT, New Delhi





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THIS PRESENTATION WAS SHARED BY

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FOR THE SESSION:

*“Entrepreneurship & Innovative Business Models”*

DURING ANGAN 2019

Knowledge Partner

**teri** | THE ENERGY AND  
RESOURCES INSTITUTE  
Creating Innovative Solutions for a Sustainable Future

Event Partner

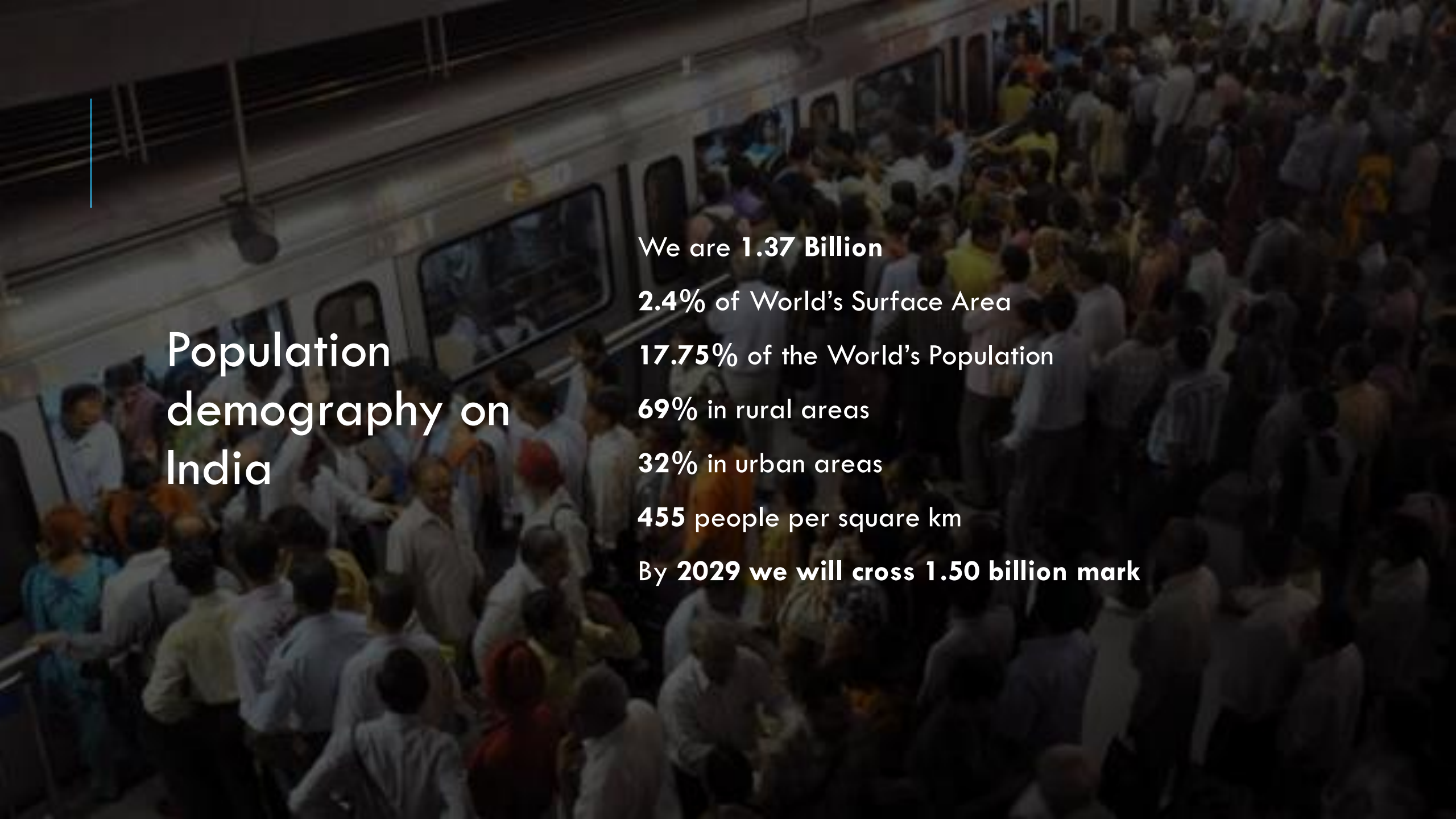
**TEC INDIA** <sup>TM</sup>  
EVENT & BRAND MANAGEMENT CO.

# GREEN BUILDINGS..A PATENTS ANGLE



**Accures Legal**  
IP | Corporate | Commercial

**Vedant Vijay Pujari**  
Managing Partner  
Accures Legal



**Population  
demography on  
India**

**We are 1.37 Billion**

**2.4% of World's Surface Area**


**17.75% of the World's Population**

**69% in rural areas**

**32% in urban areas**

**455 people per square km**

**By 2029 we will cross 1.50 billion mark**



The Past and the  
Future of the  
Buildings to sustain  
the Population

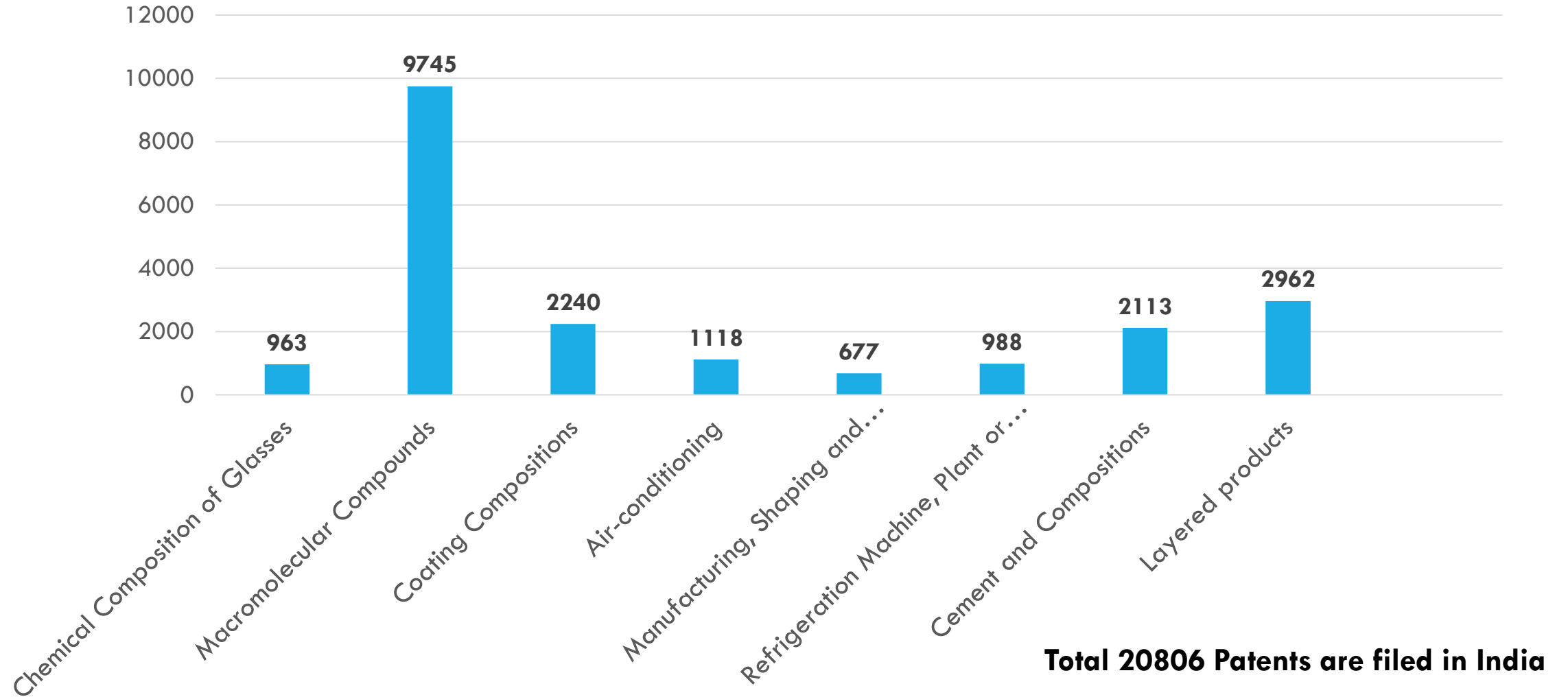
700 million sq. meters of commercial building space  
built over the last 10 years.

70% of the buildings required by 2030 have not been  
constructed

- *By International Finance Corporation*



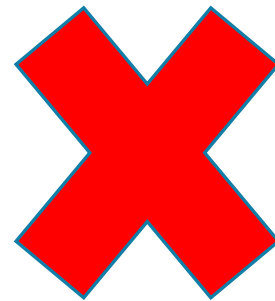
# PATENTS FILED IN INDIA – 2009 TO 2019



# THRESHOLD OF PATENTABILITY IN INDIA

## HIGH THRESHOLD

- Novel
- Non-obvious; and
- Industrially Applicable



- Mere arrangement and rearrangement
- Mere discovery of new form of a known substance
- Business model, computer program
- Traditional knowledge

# CASE STUDY — LC<sup>3</sup> CEMENT

**Technical Problem:** Cement is the source of about 8% of the world's CO<sub>2</sub> emissions.

**Solution:** Manufacturing a low CO<sub>2</sub> emitting cement.

**How:** Limestone Calcined Clay Cement (LC<sup>3</sup>)

- LC<sup>3</sup> is a new type of cement that is based on a blend of limestone and calcined clay. LC<sup>3</sup> can reduce CO<sub>2</sub> emissions by up to 30%.
- is made using limestone and low-grade clays which are available in abundant quantities, is cost effective and does not require capital intensive modifications to existing cement plants.

Clinker – Limestone systems and Clinker – Calcined Clay systems are well established. LC<sup>3</sup> is not about inventing a new technology but optimizing the synergy between two already known chemical systems.

Please refer <https://www.lc3.ch/> for further details

# CASE STUDY — RUST FREE CEMENT

**Technical Problem:** Cement does not contain property that will avoid rust using natural resources.

**Solution:** Making a cement that contains this property.

**How:** Adding neem to cement

- Neem oil as a natural admixture can be added to cement to avoid rusting of the iron and also lower the emission.

**Traditional knowledge:** May not be patentable because the natural property of neem is used to achieve an output, which is not novel.

# CONCLUSION

1. For a country like India, Green Buildings will take some time, new technologies must constantly evolve and patented alongwith compliances.
2. Awareness on protection of these technologies is important so that India can lead the way to Green and Sustainable Buildings.
3. Indian patent system is well equipped to handle all new technology areas in the this field.
4. Industry, academia and industry organisations must come together to achieve this objective.

THANK YOU

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