What is LC\textsuperscript{3}?\n
LC\textsuperscript{3} (Limestone calcined clay cement) - works out to be a high impact alternative for cement as it makes use of limestone and low-grade clays which are available in abundant quantities.

Why LC\textsuperscript{3}?\n
- LC\textsuperscript{3} - offers a cost effective solution as Limestone and calcined clay can be sourced near the existing cement plants.
- Require less capital intensive modifications to existing cement plants.
- Less clinker in cement.
- Grinding limestone is less energy intensive.
- Calcination of clay occurs at much lower temperature (800\textdegree C).
- Reduces CO\textsubscript{2} emissions in cement production by nearly 30%.

How LC\textsuperscript{3} works?\n
LC\textsuperscript{3}'s innovation lies with its chemistry. The synergistic reaction from low grade calcined clay in the presence of limestone, which leads to carboaluminate formation resulting in better microstructure in LC\textsuperscript{3}.

- Desired chemistry
- Optimized use of resources
- High Quality performance

Limestone Calcined Clay Cement (LC\textsuperscript{3}) – Cement for sustainable future

Limestone reserve

1 unit of OPC

2 units of LC\textsuperscript{3}

LC\textsuperscript{3} approach can double the cement production for the same quantity of limestone reserve available.

Significance of LC\textsuperscript{3}?\n
LC\textsuperscript{3} – could nearly double the end product (cement) with existing limestone reserves.

Potential of LC\textsuperscript{3}?\n
LC\textsuperscript{3} – shows comparable strength evolution with ordinary portland cement even at high substitution levels.

- Preferred chemistry
- Optimized use of resources
- High Quality performance

Applications of LC\textsuperscript{3}?\n
- Hollow blocks
- Roof tiles
- Demonstration building in Jhansi, Uttar Pradesh, India

LC\textsuperscript{3} can be used for a wide range of applications from low cost construction materials to high performance concrete for structural applications – Research ongoing.

LC\textsuperscript{3} - Project\n
LC\textsuperscript{3} is a global project with several universities and industry partner working together in assessing cement hydration, microstructure, rheology, mechanical characteristics, creep/shrinkage, durability, chloride/carbonation induced corrosion, and eco-efficiency (CO\textsubscript{2} and H\textsubscript{2}O footprint).

LC\textsuperscript{3} - Indian Team\n
IIT Delhi, IIT Madras, IIT Bombay and TARA are currently involved in making industry scale production of LC\textsuperscript{3} cement, evaluating various properties, and transferring technology to the field – an effort towards a sustainable future.

For more details: www.lc3.ch