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Project: Concrete Adjuvants

Industry: Construction and (nano) Materials

Introduction: Nanoparticle based chemical for sustainable and durable constructions

Team Size: Members (2), Advisory Board (4)

Status: Large scale production & testing /Team expansion

Problem and Solution

Concrete is the 2nd most used substance after water in the world. They are cheapest construction material. Their mammoth usage of 30 B tonnes per year contributes up to 10% of Carbon Emission in the world. With decline in quality of its raw material, growing urbanisation rate the demand expected to double. There is urgent need of alternative solution to reduce this global warming impact. Currently we are using most optimised production process and most abundant elements in earth crust.

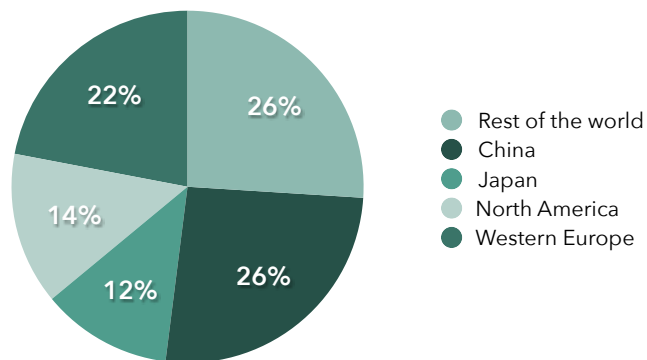
Our technology includes special inorganic nanoparticle based chemicals with least carbon footprint for on demand acceleration or retardation of the concrete hardening (up to 60%) and also increase the overall strength of normal concrete (up to 30%) . This allow in Optimised construction with reduction in energy, time, labor cost and overall material usage. Thus it helps in making whole construction process more durable, cheaper and sustainable by 10 to 30%.

Market Opportunity

The Construction business contributes to about 10% of world GDP and in USA itself is over \$ 100 B market. With degrading quality of Cement raw material and high rate of urbanisation, consumption of construction chemical is on rise with over \$34 B with estimated 70% of population to live in urban area in next 2 decades.

Targeted market: Highest urbanisation Zone - Asia and Middle-east

Construction chemical Consumption (2011) ~ \$ 34 B



Competition and Competitive advantage

- Complete inorganic solution with no traces of carbon coming from polymers unlike any other in existing market, ensures higher durability.
- Optimised nanoparticle synthesis allows to have acceleration and retardation, keeping same ingredient.
- 20% superior performance than any product.
- Flexibility - Customised products per project

Road map

- Constituting more team member for business development and Initial grant for large scale production facilities.
- Large scale test and First Customer
- Developing Sustainable Material for 3D printed construction - Upcoming market
- Exploring other nanoparticle application such as - oil spills, nano food - Higher margin market