



## An Efficient Cool Transport

India is one of the largest producers of agricultural products and one of the global leaders in the pharmaceutical sector. Yet, it is known to have a fledgling cold-chain, which results in supply chain losses of food and other resources.

These **losses** have been stated to be as high as **USD 8 to 15 billion per annum** from the **agriculture sector** alone. India has around 6,300 cold storage facilities, with a capacity of 30.11 million tonnes. However, some 75-80 per cent of these refrigerated warehouses are suitable only to store potatoes, a commodity that produces only 20 per cent of agricultural revenue. Only 4 million of the 104 million tonnes of fresh produce is transported through a cold chain.

A **Cold Chain** is a temperature-controlled supply chain. An unbroken cold chain is an uninterrupted series of storage and distribution activities which maintain a given temperature range. It is used to help extend and ensure the **shelf life** of products such as **fresh agricultural produce**, seafood, frozen food, photographic film, chemicals, and pharmaceutical drugs.

Thus an unbroken cold chain is very essential to reduce **food wastage** due to spoilage, will increase shelf life, and help connect farmers directly to consumers.

***You are required to design an efficient cool transport to retain temperature and quality for 4-6 hours that takes into consideration PCM (Phase change material).***

### Timeline

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| Idea Proposal (give a link to the <a href="#">Idea Proposal</a> section)  | January 10 <sup>th</sup> , 2016   |
| Mentorship Kicks off! (give a link to the <a href="#">Mentorship</a> section)                                       | 20 <sup>th</sup> January <b>OR</b> As soon as your idea is selected (whichever is earlier). |
| Submission of final report  | 7 <sup>th</sup> February, 2016  |
| Presentation in Apogee, technical festival of BITS Pilani (give a link to the <a href="#">Presentation</a> section) | February 25 <sup>th</sup> – 28 <sup>th</sup> , 2016   |
| Implementation Phase (give a link to the <a href="#">Implementation</a> section)                                    | Based on the preferences of the organization (if providing an internship) and student       |