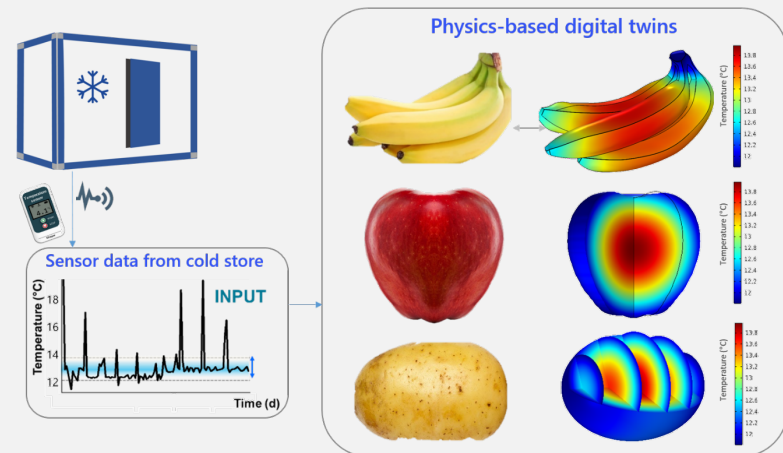


# Coldtivate: a mobile app for increasing access to cooling

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## 1 Motivation & Method

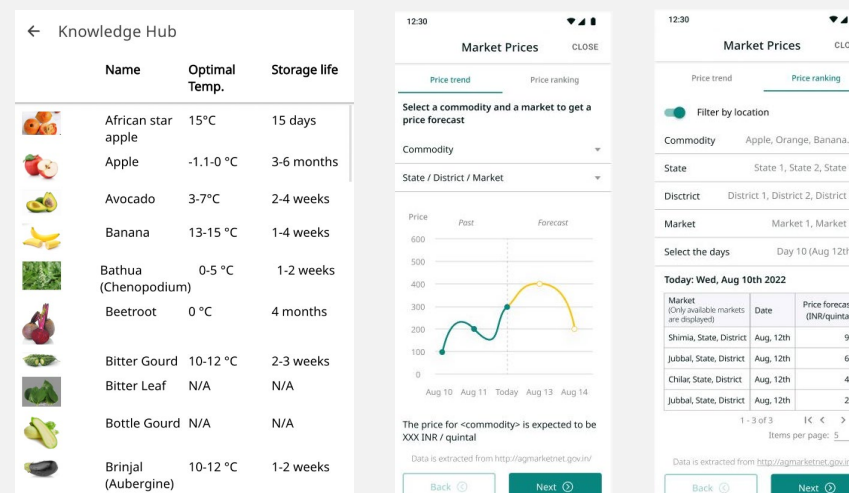
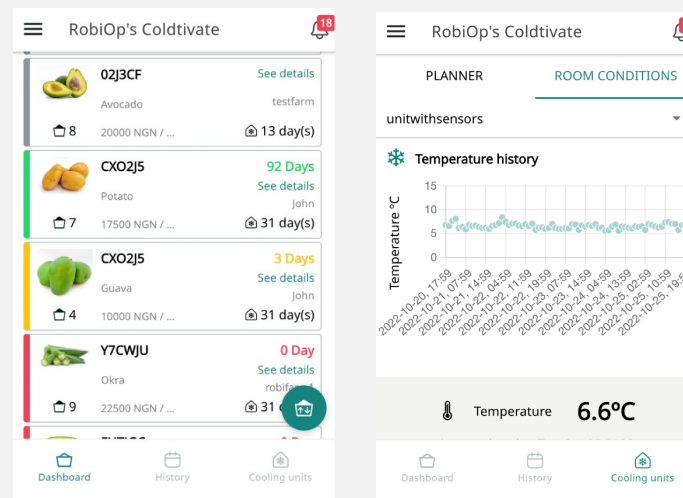
To reduce food loss along the supply chain in developing countries, we developed a data-science-based and open-source mobile app that facilitates access to cold storage as well as to post-harvest and market intelligence for smallholder farmers.



Our mobile app removes the need of manual registries for managing cold room operations and tracks the remaining quality of commodities with physics-based food digital twin models and real-time temperature data.

## 2 Results

The app features: 26 food item models providing shelf life estimates, sensor integration, a knowledge hub and market price forecasts.



We digitalize check-in and check-out operations, monitor room conditions, and provide optimal storage conditions knowledge, real-time shelf life estimates and market price forecasts based on machine learning.

## 3 Conclusion

Our app helps local cooling service providers to grow and allows smallholder farmers for better decision-making in terms of when and where to sell their produce to secure better market prices, thus preventing distress selling, increasing their income and reducing food loss.

## 4 Contribution to Sustainable Food Systems

Our research seeks to facilitate the access to sustainable cooling in the food supply chain of developing countries and decrease food loss. Our work supports SGD2, in order to increase food security, and the income of small-scale food producers.

