



## Problem Statement

### WiT-ACE Hackathon solution starter kit: Responsible production and green consumption

Economic and social progress over the last century has been accompanied by environmental degradation that is endangering the very systems on which our future development depends.

#### What's the problem?

The United Nations has established Sustainable Development Goal 12 to help ensure that the world moves towards sustainable consumption and production patterns. This goal is about increasing resource efficiency and promoting sustainable lifestyles. This can be achieved by bringing a systemic change and applying a life cycle thinking approach, taking into account all phases of resource use to do more and better with less. Production and green consumption of goods and services should drive economic growth and improve quality of life, but with fewer natural resources and less environmental impact across the life cycle.

#### How can technology help?

Technology can help in many ways, from recommendations on energy efficiency to highlighting the carbon footprint of online purchases.

For example, the Plastic Bank uses blockchain and IBM Cloud technologies to create an application that helps monetize ocean plastic. Plastic Bank has the vision to set up recycling systems in economically disadvantaged parts of the world that would enable local citizens to monetize plastic pollution.

### WiT-ACE Hackathon solution starter kit: Clean water and sanitation

Water is the natural resource that is most threatened by climate change, and more than half of the world does not have access to safe sanitation services. Use this starter kit to understand how technology can improve access to clean drinking water, reduce water waste, and protect natural resources. The starter kit provides tools and resources from experts to help you jump-start your own solution.



## What's the problem?

According to the World Health Organization, billions of people around the world do not have safely managed drinking water services, a safe sanitation services, and lack basic hand washing facilities. These are critical in preventing the spread of COVID-19 and other diseases.

UNICEF is urgently appealing for funding and support to reach more children with basic water, sanitation, and hygiene facilities.

## How can technology help?

IBM provides various technologies such as IoT, Watson, and blockchain. IBM Water Management as a Service platform can monitor water resources in real time. Through this cloud-based platform, IBM is helping to improve the management of water resources.

Additional ways Water Management as a Service can help:

Creating a database and interactive map to help locate and maintain the water points across the countries. Collecting water usage, breakage, and repair data from boreholes that are monitored by SweetSense. Delivering tickets to repair and maintenance teams who can respond to failures and repair the boreholes .

## WiT-ACE Hackathon solution starter kit: Zero hunger

Hunger is a global issue, where millions of people around the world have insufficient access to adequate food. According to the UN Hunger Report, this number has been slowly rising since 2014. This starter kit helps to build applications to address the real-world challenge of global hunger by enabling independent farmers. The starter kit provides tools and resources from our experts to help you jump-start your own solution.

## What's the problem?

Approximately 9% of the global population is suffering from hunger. And, much of the world's food is grown by small-scale, independent farms and distributed through local community cooperatives who sell the surplus produce. The co-ops are a central point for quality control, deliveries, and enabling food related markets. However, these co-ops face a countless number of logistical challenges to get the right food to the right places with minimal time and cost.

## How can technology help?

Technology can help in many ways. For example, by bringing the paper ledgers of food co-ops online, communities can gain data insights for a better crop lifecycle and increased overall yield for sustainable food production systems. More crops mean better access to food for the community. For rural farmers the co-ops become the pivotal point of innovation.

IBM Food Trust is a blockchain innovation that helps the ecosystem of producers, suppliers, manufacturers, retailers, and others to create a smarter, safer, more sustainable food system for all.