From Farm to Fork
A Tech-Enabled Food System

The Future of Food

We are in the midst of a food revolution. Experts predict there will be more changes to the food industry in the next 10 years than there have been in the past two or three decades. As the cross section of emerging technology and data science continues to shape the future of the industry, humans must harness these innovations to help solve the global food safety challenges we face today.

600MM people across the globe contract a foodborne illness each year

**48MM** cases occur in the U.S. alone – that's 1 in 6 Americans

3K Americans die each year from contracting a foodborne illness

Traceability with Transparency

When it comes to food safety, lack of universal, consistent traceability is the industry's Achilles' heel. Tracking food on blockchain's open-source, distributed ledger enables us to pinpoint the origin of contaminated products in seconds – not days – preventing outbreaks, protecting consumers, and saving billions of dollars.

TRACKING AN OUTBREAK
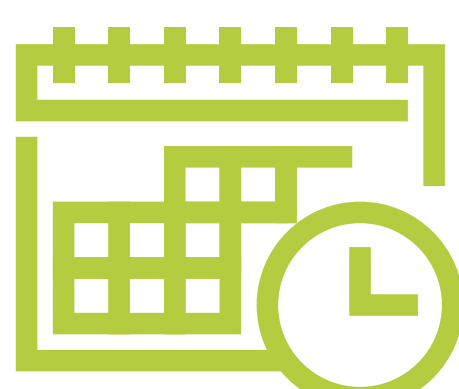
Pen and Paper
6 days, 18 hours, 26 minutes
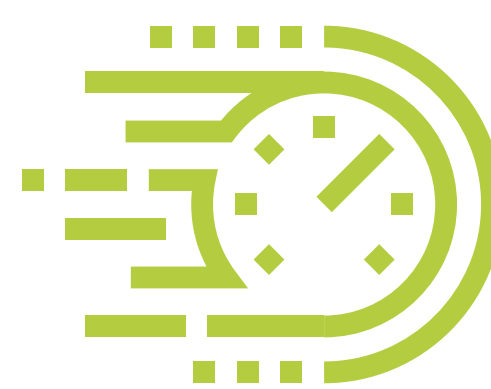
Blockchain
2.2 seconds

Foodborne illness costs the U.S. between $55 to $93 billion every year.

Nourishing Innovation Through AI

By applying next-generation technologies like AI to the food system, humans can create a paradigm shift in how we regulate food as it moves through the supply chain.

Automated Detection Systems
Monitor crop health to help identify harmful pests, diseases, and foodborne pathogens early.

Predictive Modeling and Analytics
Proactively identify high-risk production environments to prompt early intervention and corrective action.

Real-Time Tracking
Trace the path of goods from production to consumption, ensuring transparency from farm to fork.

Image Recognition
Sort food using optical sorting solutions to increase food safety and quality and reduce waste.
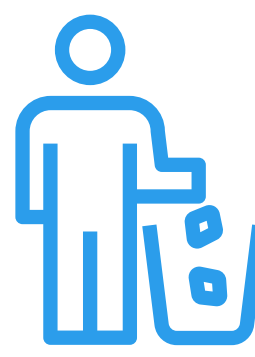
$29BN tab billed to the U.S. annually from food waste

1/3 of food produced in the U.S. is thrown out by consumers every year

Big Data – The Recipe For Safety

One foodborne illness is one too many. Executing a swift intervention in the event of a recall or outbreak relies heavily on gathering, interpreting, and publicly sharing large sets of data – as quickly as possible.
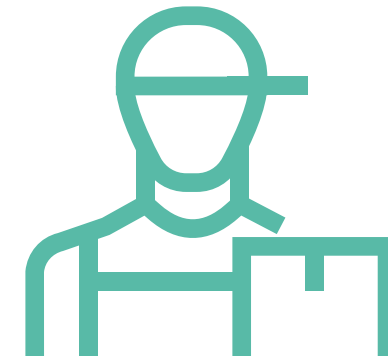
2.5K+ Local health departments in the U.S.

2K+ Average locations from the top U.S. restaurant chains

300K+ Restaurants listed on largest U.S. food delivery platforms

Health Agency Behavior on Food Codes and Enforcement

Health agencies at varying levels of government conduct inspections based on different criteria, making it increasingly difficult to standardize food safety measures and enforcement.

DOWNSIDE
Inconsistencies in gathering and interpreting data leads to over 2,500 different ways to inspect a restaurant.

UPSIDE
Lots of information = lots of data and analysis. Having access to big data and predictive analytics presents significant opportunities for restaurants, retailers, and health agencies to:

- Identify patterns in food safety issues
- Pinpoint harmful foodborne pathogens
- Predict and prevent food spoilage conditions
- Improve traceability and outbreak detection/surveillance
- Standardize health inspections and scoring systems

Level of Govt.	Example Agency
Federal	FDA
State	CDPH Public Health
County	County of Los Angeles Public Health
City	PASADENA Public Health Department

Tomorrow's Success Depends on Collaboration Today

Here's the scoop: The intersection of next-generation technology and continuous collaboration between food professionals, consumers, and industry, government, and academic entities is vital to the future of food safety. It's where we as humans must continue harnessing innovation to modernize the food system and streamline a fragmented supply chain. Most importantly, it's the key to improving public safety outcomes on a local, state, national – and global – stage.

SHIFT20