



# Stopping Biofuels Feedstock Fraud

**JustUCO** is committed to **stopping used cooking oil feedstock fraud** in the biofuels supply chain.

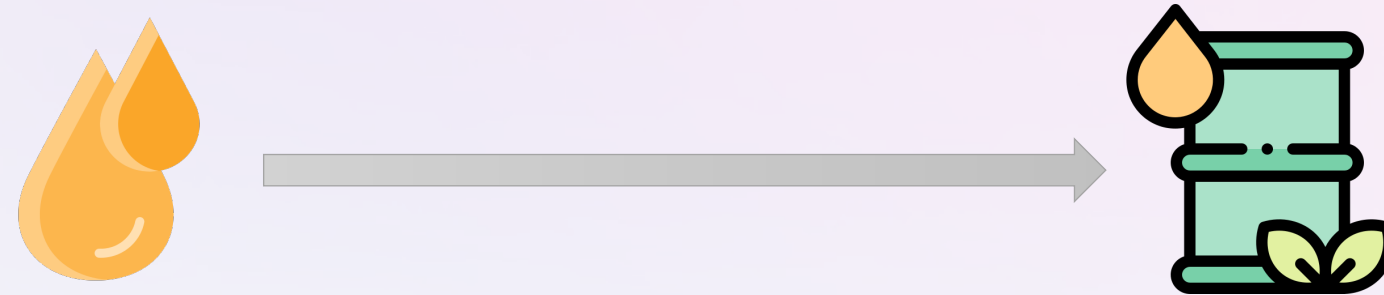
We provide a **complete end-to-end hardware and software solution** that enables regulators to efficiently identify fraudulently labeled used cooking oil.



# Identifying the Problem

Production of *renewable diesel* and *sustainable aviation fuel*, both lipid-based drop-in biofuels compatible with existing infrastructure, is rapidly expanding.

*24B gallons per year* of biofuels were produced in the US in 2023. Another 3BNGY in production expansion currently underway<sup>1</sup>.



**However**, ~50% of the *used cooking oil* being sourced as a biofuels feedstock may be *fraudulently labeled palm oil*<sup>2</sup>.

This *fraud* is committed to enable access to more carbon credits and subsidies.

1. <https://biodieselmagazine.com/articles/renewable-diesel-saf-project-roundup-report-2518451>  
2. <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/oil/121423-new-biofuel-data-triggers-fresh-fraud-concerns-over-eu-imports>

# Impact of Biofuels Feedstock Fraud

## 3.2M Metric Tons

of Carbon Emissions Annually

## \$1.9 Billion

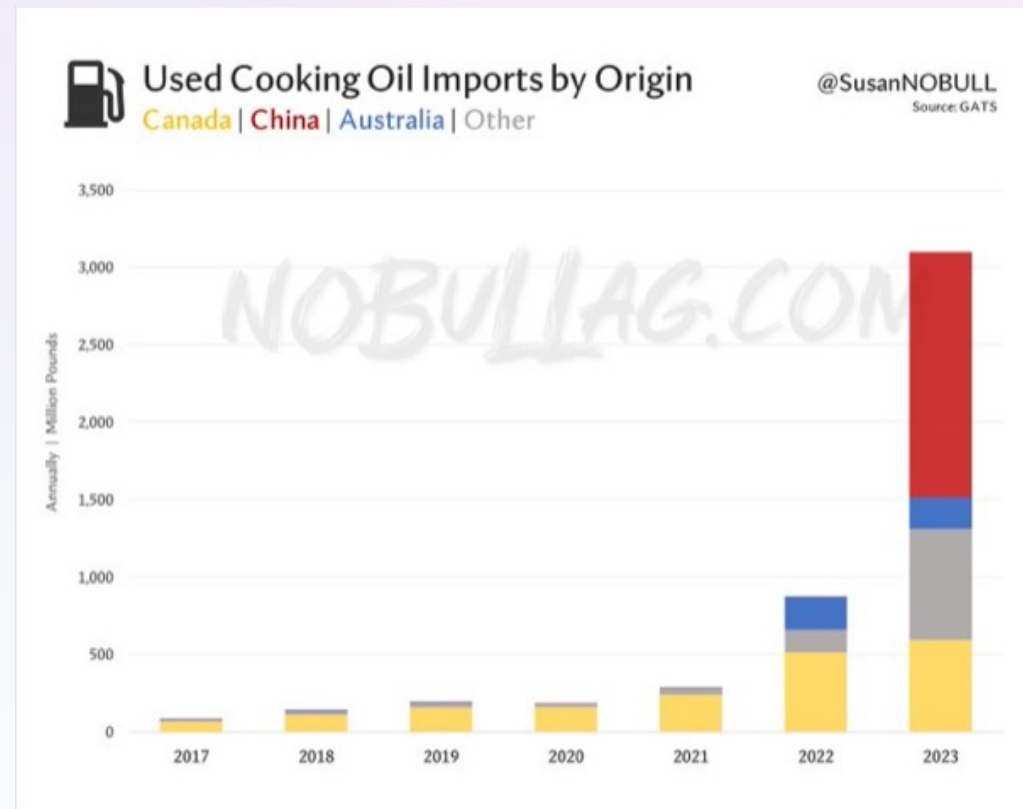
of Fraudulent Tax Credits and Subsidies per Year

# Current Solutions

***No solution***

exists for regulators today to identify mislabeled used cooking oil

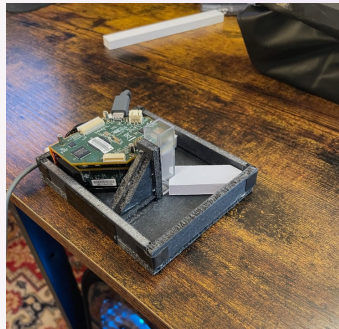
... and the market has reacted. ***Unprecedented increases*** in "used cooking oil" from China and Southeast Asia



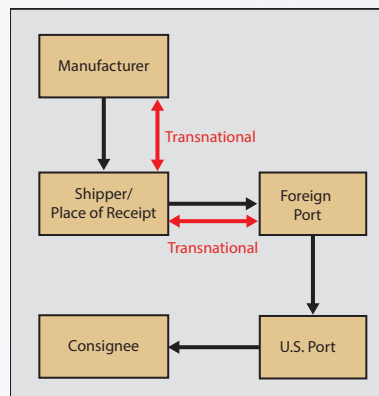


# Our Approach

We use a **multi-faceted approach**, including **handheld sensors**, **web-based software**, **machine learning**, and **advanced analytical layers** to combat adulteration effectively.



Our prototype handheld sensor (bootstrapped in-house)



1

## Handheld Sensors

Enables field testing for immediate results.

2

## Web-based Software

Allows regulators to securely upload and analyze test results from our handheld sensor to the cloud

3

## Machine Learning (Software Layer)

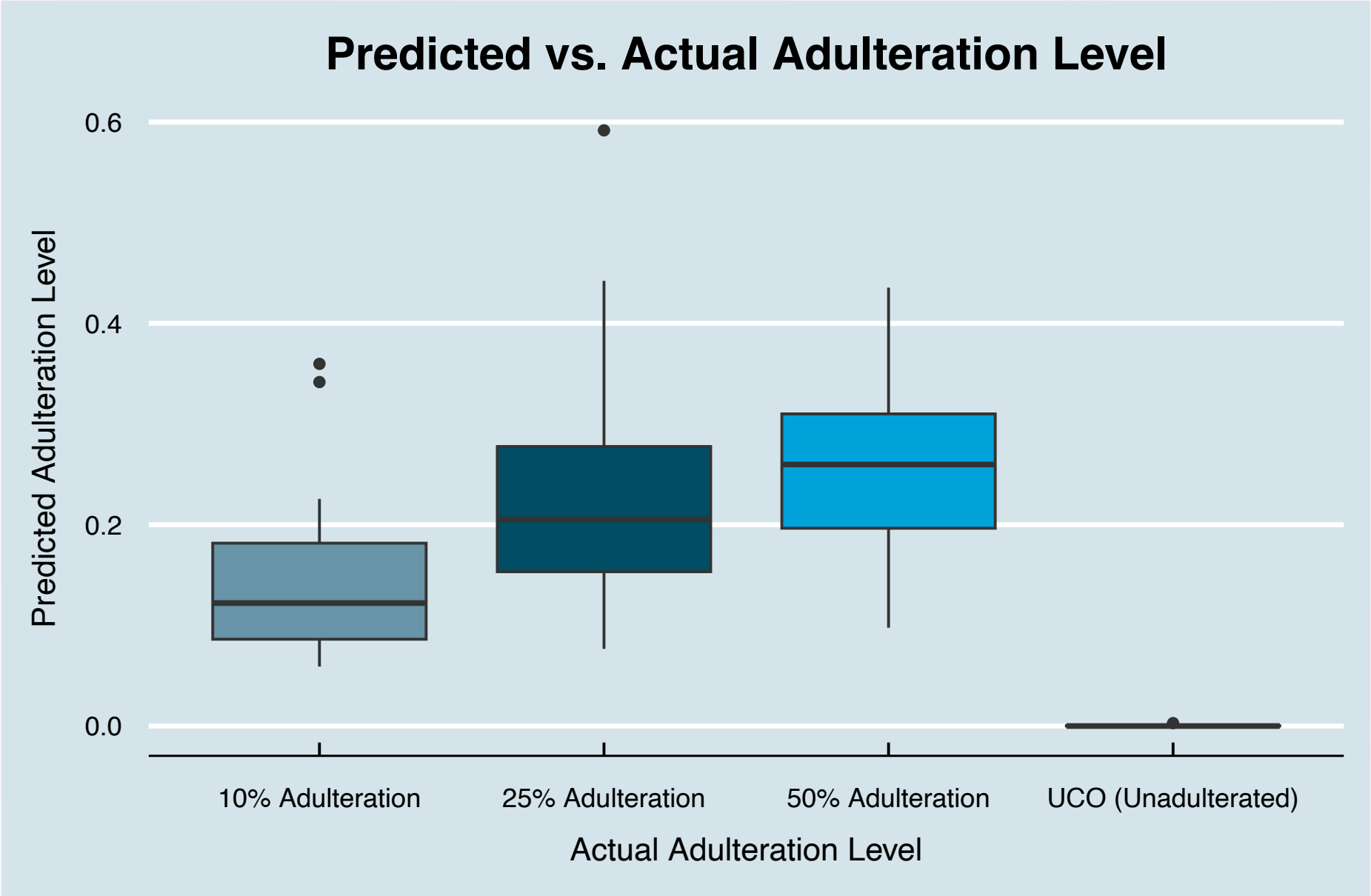
Utilizes proprietary machine learning algorithms to identify whether a sample is adulterated

## Supply Chain Analytics (Software Layer)

Integrates supply chain data to identify sources of fraud and enable efficient regulation

# Early Results

**100% detection rate** for adulterated vs unadulterated used cooking oil (UCO) samples



# Our Team



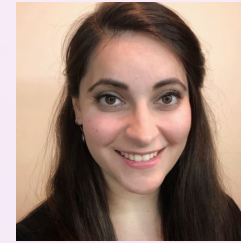
**Nicholas Renegar, Ph.D**  
**Co-Founder**

- PhD Operations Research, MIT
- 5 years supporting regulators to prevent adulteration in food supply chains. Operationalized tools now used by US FDA and Chinese authorities.
- Thesis work on applications of machine learning to agricultural supply chains and biotech dev.
- Previously lead business development at Yield10 & leadership contacts across biofuels industry.



**Xun Gong, Ph.D**  
**Co-Founder**

- PhD/MD from Mayo Clinic and Research Scientist at MIT (Strano Lab, Chem E)
- Numerous publications and patents on sensors, with previous work on developing sensors for detection of food adulteration
- Strong technical background in spectroscopy, hardware development, 3d printing, grant writing, lab management



**Marie Lea Berkowitz, MA**  
**Advisor**

- MA Biology, Brown University
- 11 years at Pfizer, including time as Senior Scientist leading COVID-19 mRNA benchtop process scale-up
- Currently Regulatory Manager for vaccine submission
- Extensive experience with lab protocols and management, process standardization, regulatory outreach



**Professor Anthony J. Sinskey, Sc.D**  
**Advisor**

- Professor of Biology at MIT
- Co-founder or scientific co-founder of multiple companies with IPOs/exits including Genzyme, Merrimack Pharmaceuticals. Metabolix and Tephra
- Principal Investigator on MIT's Food Safety and Sensing Initiative for adulteration in food supply chains



# Contact Us

We are seeking finish & deploy our commercial solution immediately, accelerating the fight against climate change and fraud



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