

LiveStack

An open-source data platform built for agriculture

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The Challenge

- Farms are generating more data than ever
 - This data sits in silos
 - Different formats
 - Different vendors
- No standard way to connect them
- Analysts spend more time sourcing and wrangling data than analyzing it
- There is no open-source platform to fix this
- Building a data system means starting from scratch

What is LiveStack?

- LiveStack is an open-source data platform
- One system that connects to any data source on a farm
- Harmonize the data, store it, and make it available through a single API
- Designed to be extended - by researchers, developers and industry partners

How did LiveStack start?

- The University of Guelph had no system to manage data for its research farms
 - Dairy, beef, swine, poultry, aquaculture, and precision feed facility
- The University of Guelph invested in developing systems to manage all this data
 - Started developing in 2017
- Today we store all our data flows in a database for each farm
 - Dashboard to access this data
- These systems have limitations
 - Difficult to reuse on another farm
 - Not built with extension in mind
- LiveStack aims to build on what we learned from these systems

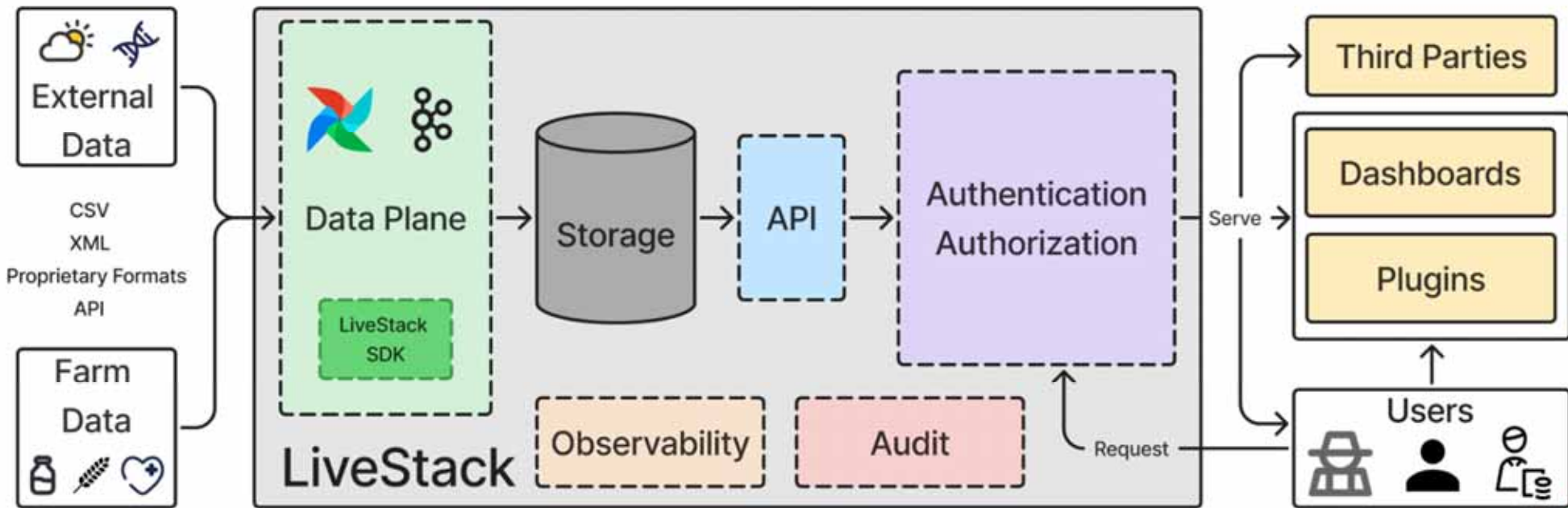
Why use LiveStack?

- You don't need to build a data platform from scratch
- Plug in your data sources - let LiveStack handle collection, storage and access
- Community-built integrations mean problems only need to be solved once
- Provides dashboards and an API - focus on data not on infrastructure

Extending LiveStack

- Building and maintaining a data platform is expensive
- LiveStack will offer a platform ready to deploy on farms
- Build extensions on top of LiveStack
 - Keep your copyright
 - Sell them as a service
- Your product reaches every farm running LiveStack - no need to build the infrastructure yourself

LiveStack Architecture



Hybrid Architecture

- LiveStack will run where your farm is
 - Not every farm has reliable internet
 - Not every organization wants their data on the cloud
- LiveStack will deploy on a server at the farm, in the cloud, or both
- Each piece of the platform runs independently
 - These pieces can be distributed
 - If one goes down the rest stay running

Extensibility and Plugins

- LiveStack will offer a plugin system
- Allow third parties to build extensions that run inside the platform
- Always-on services that process data in the background
- Interactive tools that launch on demand

RuFaS Plugin

- RuFaS is a whole-farm systems model
 - Powerful software but no built-in way to connect to your farm
- As a LiveStack plugin, RuFaS connects directly to your farm's data
- Run the model with real data and view results from within LiveStack
- The extension model in action - integrate existing research tools

Roadmap

- Fall 2025: Started development
- Fall 2026: First on farm deployments
- Early 2027: Release first open-source version

Thank you for listening!