# AUTOFARM™

Inspired by life, for life.

# Overview

## A Sovereign Cognitive Infrastructure for Global Agriculture

*Beneficiary of an Innosuisse Mentoring Voucher (Swiss Innovation Agency)*
*Project N° 136.046 IMIA-ENG*

*Version : 1.7 - 2026-05-17*
*Background IP : Jan Affolter ITS (CHE-104.801.264), owner of the AUTOFARM project.*

# Foreword

For thousands of years, agriculture relied on intuition, labour, and predictable seasons. That foundation has collapsed. Across continents, the agricultural workforce is disappearing faster than it can be replaced. Costs rise while margins shrink. Climate volatility invalidates decades of knowledge in a single season. Farmers face a cognitive load no human being can sustain.

By 2050, the world must produce more food with fewer farmers, under more extreme conditions, on less predictable land. This is no longer a challenge — it is a survival problem.

Robotics is required because there are not enough farmers. AI is required because agronomic complexity exceeds human cognition. Standardization is required because agriculture cannot scale without a shared causal language.

AUTOFARM was created for this moment: a sovereign cognitive infrastructure designed to restore clarity, stability, intelligence, and resilience to global agriculture. It is not a tool, a platform, or a product. It is a new architecture for a world where agriculture must become deterministic, automated, and cognitively augmented to survive.

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# 1 The True Nature of AUTOFARM

Most readers approach AUTOFARM as if they were evaluating a company. They are not.

AUTOFARM is a **sovereign protocol** supported by autonomous farming units, enhanced by AI, and coordinated through a global cognitive engine.

AUTOFARM is not:

- a SaaS
- a platform
- a service
- an agri-tech product

AUTOFARM is:

- **a sovereign protocol**
- **a cognitive infrastructure**
- **a potential institutional standard**
- **a common causal language for agricultural value chains**
- **a global trust layer**

AUTOFARM should not be evaluated through the lens of traditional agritech or software ventures. It must be understood as **infrastructure** — a new architectural layer for global agriculture.

# 2 Why Agriculture Needs a Cognitive Infrastructure

For millennia, agriculture relied on intuition, labour, and predictable seasons.

**That world is gone.**

Today, global agriculture faces pressures no human mind or workforce can absorb:

- collapsing labour availability
- climate volatility and extreme events
- rising costs and shrinking margins
- a cognitive load no farmer can carry
- harvests lost in days
- a growing population demanding more food from fewer farmers

By 2050, humanity must produce **more food with fewer farmers**, under **more extreme conditions**, on **less predictable land**.

This is no longer a challenge.
**It is a survival problem.**

Robotics is here because there are no longer enough farmers.
AI is here because the complexity exceeds human capacity.
Standardization is here because agriculture cannot scale without a shared causal language.

**The transformation ahead is not optional — it is the only path left.**

AUTOFARM was created for this moment.

**It is a sovereign cognitive protocol coupled with autonomous farming as its operational layer — a survival infrastructure designed to restore what agriculture has lost: clarity, stability, intelligence, and resilience.**

Agriculture no longer needs “tools”.
It needs **architecture**.

AUTOFARM is that architecture.

# 3 Overview

### 3.1 Purpose and Positioning

AUTOFARM is a **sovereign cognitive infrastructure** designed to standardize agronomic causality, automate crop management, and support national and global food-security strategies.
It is built for **institutional adoption**, **PPP-compatible deployment**, and **global scalability**.

### 3.2 Core Components

**1. Autonomous Local Edge (Drones + IoT)**

A deterministic operational layer enabling:

- autonomous crop monitoring
- real-time stress detection
- precise intervention
- continuous data capture

**The autonomous edge is the operational layer that grounds the cognitive protocol in real-world agronomic action.**

**2. CIF — Cycle Invariant File (Open-Source Standard)**

The CIF is a sovereign agronomic standard I created and released as open-source (Apache 2.0).
It captures a crop cycle with scientific precision and enables:

- national cognitive cores
- global cross-regional learning
- causal comparability
- institutional reporting

CIF repository:
→ https://github.com/janaffolter/AUTOFARM-CIF

The CIF is intentionally transparent:
**a neutral, sovereign, institution-ready standard.**

**3. National Cognitive Cores + Global Meta-Core**

AUTOFARM introduces a two-layer cognitive architecture:

- **National Cores**

Optimize crops locally, respecting sovereignty, agronomic calendars, and regional constraints.

- **Global Meta-Core**
  Learns across regions, climates, and varieties to improve systemic resilience and global food-security intelligence.

This architecture ensures:

- sovereignty
- interoperability
- scalability
- causal consistency

**4. PPP-Compatible Business Model**

AUTOFARM is designed for:

- national deployment
- parity-based pricing
- institutional alignment
- long-term sustainability

**5. Automated Reporting and Institutional Intelligence**

AUTOFARM provides:

- farmer-level operational reporting
- agronomist-level diagnostic intelligence
- authority-level systemic indicators
- climate-adjusted agronomic calendar validation
- risk-scoring for finance and insurance

This creates a unified, sovereign, causal layer for agricultural governance.

**6. Risk Reduction for Banking and Insurance**

Structured, cycle-based data enables:

- improved underwriting
- reduced uncertainty

- better capital allocation
- climate-risk modelling
- sovereign food-security forecasting

### 3.3 Why AUTOFARM Is Different

AUTOFARM is designed to remain:

- **lean** (minimal operational footprint)
- **sovereign** (no dependency lock-in)
- **globally scalable** (standardized causal language)
- **transparent** (open-source CIF)
- **institution-ready** (PPP-compatible)

# 4 Call for Investors and Institutional Partners

I am actively opening AUTOFARM to collaboration with:

- investors
- banks & insurers
- hyperscalers
- global traders
- foundations
- cooperatives
- governments
- NGOs & international institutions

If your mandate touches:

- food security
- climate resilience
- agricultural transformation
- sovereign digital infrastructure
- systemic risk reduction
- sustainable finance

…I would be glad to connect.

# 5 Closing

Agriculture needs a new architecture.

**AUTOFARM is that architecture**.

**I am now building the coalition that will make it real.**

**Details of AUTOFARM —** including the business model, financial outlook, governance structure, and deployment mechanisms — **are delivered only under NDA due to their strategic nature.**

# 6 Project Ownership

**Owner & Founder:** Jan Affolter — jan.affolter@autofarm.global

**Intellectual Property Holder:** Jan Affolter ITS (CHE-104.801.264)

**Location:** Lausanne, Switzerland

**Web site :** https://autofarm.global