Defantra Website Content

Product

Trustworthy AI Customs Agent

Eliminate HS code ambiguity, reduce manual customs workload, and ensure every decision is defensible under regulatory and audit scrutiny.

Defantra is a Realtime Trust Intelligence Platform - designed to separate what machines should do, what humans must decide, and what regulators need proven.

Verified Trust, Speed, and Intelligence for Customs Clearance

Automated HS Code Classification

What it is
A deterministic AI system that classifies goods under the correct HS code, with confidence scoring and human escalation.

How it works

1. SLMs apply rule-based classification logic at machine speed
2. Confidence scoring flags ambiguity
3. Human experts resolve edge cases
4. Final decisions are recorded as verifiable compliance artefacts

Why it matters

- Faster clearance without shortcuts
- Fewer misclassifications and penalties
- Decisions that stand up to audit

Designed for Regulated Scale

- Deterministic outputs, not probabilistic guesses
- Explainability by design
- Audit-ready records from day one

Defantra replaces ad-hoc judgment with accountable decision workflows.

Services

AI / ML / Blockchain Specialists

Defantra provides outside-IR35 specialist services to enterprises and public-sector organisations building regulated AI, data, and compliance infrastructure.

Our services exist for one reason: critical systems cannot be built by generalists.

Engagement Model

- Outside IR35 only
- Senior, hands-on contributors
- Architecture-first delivery
- Outcome-aligned milestones

Core Capabilities

AI / ML Architecture

- Design of deterministic and hybrid AI systems
- SLM and ML model orchestration
- Human-in-the-loop workflows
- Explainability, confidence scoring, and override logic

Blockchain & Verifiable Systems

- Immutable audit trails for regulated decisions
- Data provenance and compliance proofs
- Multi-party coordination architectures
- Blockchain where verification is required—not as decoration

Regulated Systems Engineering

- Policy-to-code translation
- Regulatory change monitoring architectures
- Risk scoring and anomaly detection pipelines
- Secure integration across fragmented systems

Who This Is For

- Regulated enterprises
- Government-backed programmes
- Customs, trade, and compliance platforms
- Organisations with audit, legal, or safety exposure

Resources

Thinking in Systems, Not Tools

Defantra resources focus on how regulated AI systems should be designed, not vendor hype.

What We Share

- Frameworks for regulated AI systems
- Architecture patterns for human-in-the-loop systems
- Practical approaches to AI auditability
- Lessons from customs, trade, and compliance domains

Who It's For

- CTOs and architects
- Policy and compliance leaders
- Engineering teams in regulated sectors

Our goal is simple: raise the standard of how AI systems are built where failure is not an option.

Company

Built for Verifinable Trust and Compliance Intelligence

Defantra was founded on a single observation:

Most AI systems fail not because the models are weak, but because responsibility is unclear.

We design systems where responsibility is explicit.

Our Principles

- Automate only what rules can define
- Keep humans accountable for judgment
- Make outcomes provable
- Design for audits, not demos

How We Work

- Small, senior teams
- Architecture before implementation
- No black boxes
- No compliance theatre

Location

Based at University of Stirling Innovation Park, UK, working with UK and global organisations.

Team

Founder & Platform Architect
Bharath Shivaram leads Defantra's platform architecture and technical direction, with a focus on building accountable AI systems for complex, real-world domains. His work spans AI/ML systems, human-in-the-loop design, and verifiable decision infrastructure.

LinkedIn: https://www.linkedin.com/in/bharathshivaram/

Research & Development Team

- **Rinold** – AI Researcher | MSc FinTech Student

- **Sri Nidhi** – Blockchain Researcher | MSc AI Student

R&D partnerships

We partner with **Scottish universities** through **Interface** to collaborate on cutting-edge research and development projects.

1. Leveraging **Innovate UK grants**, we co-develop innovative solutions that push the boundaries of AI, blockchain, and fintech.
2. Our R&D partnerships connect academic expertise with real-world challenges, delivering impactful, mission-critical technologies.

Closing Thought

AI does not remove responsibility.

It concentrates it.

Defantra builds systems that can carry that weight.

Defantra Platform Overview

AI-Native Customs Intelligence for Global Trade

Cross-border trade fails for one simple reason: customs work is still manual, fragmented, and opaque.

Defantra replaces guesswork with deterministic AI, human oversight, and verifiable records—so goods move faster, safer, and with accountability.

The Core Problem

Customs operations break down at scale due to:

- Ambiguous HS code rules
- Manual, repetitive documentation
- Shortage of skilled customs professionals
- Constant regulatory change
- Unclear risk decisions with audit exposure
- Disconnected systems across brokers, shippers, and authorities

The result: delays, penalties, compliance risk, and rising costs.

The Defantra Platform

A single customs intelligence layer combining:

- Specialised Language Models (SLMs) for deterministic trade logic
- Human-in-the-loop workflows for edge cases and accountability
- Immutable audit records for compliance and dispute resolution

What We Do (Today)

Automated HS Code Classification

- Deterministic AI assigns HS codes with confidence scoring
- Edge cases routed to human experts
- Final decisions recorded immutably for audit

Outcome: Faster classification, fewer errors, defensible compliance.

How We Solve Core Pain Points

HS Code Classification

- Machines handle rule-based taxonomy
- Humans resolve ambiguity
- Every decision is traceable

Documentation Automation

- AI extracts, validates, and normalises trade data
- Humans review exceptions only
- Proof of submission is cryptographically verifiable

Staffing Constraints

- Routine cognitive work automated
- Experts focus on judgment, not data entry

Regulatory Change

- Continuous monitoring of global regulations
- Changes flagged early, interpreted by experts
- Historical rules preserved for audits

Risk Assessment

- AI scores anomalies and compliance risk
- Humans apply situational context
- Inputs and outputs locked for accountability

System Integration

- AI generates mapping and validation logic
- Engineers implement once, reuse everywhere

Why Defantra

- Faster clearance without sacrificing compliance
- Consistent decisions across geographies
- Audit-ready by design, not retrofitted
- Built for regulated scale

Who It's For

- Customs brokers
- Freight forwarders
- Importers and exporters
- Regulated enterprises moving goods globally

Our Philosophy

Automation where rules are clear. Human judgment where context matters. Proof where regulation demands it.

Defantra is not a black box. It is a verifiable decision system for global trade.

Call to Action

Modernise customs operations without increasing risk.

Talk to Defantra. contact@defantra.com