

# **EthosChain: The AI Supply Chain Ethics Watchdog**

*Oslo GenAI Hackathon 2025*

**Tracks:**  Business Innovation |  Social Impact

# Slide 1: The Problem

## The "Blind Spot" in Global Supply Chains

- **The Complexity Trap:** Companies manage thousands of suppliers. Manually monitoring every local news source for every factory is impossible.
- **The Invisible Risk:** Unnoticed violations (e.g., Forced Labor, Environmental Dumping) create ticking time bombs.
- **The Consequence:**
  - **Legal:** Massive fines under the EU Supply Chain Act.
  - **Reputation:** Irreversible brand damage.
- **The Gap:** Traditional tools check *financial* health but miss *ethical* risks buried in unstructured, multilingual data.

## Slide 2: The Solution - EthosChain

**"An AI Auditor that never sleeps."**

EthosChain is an autonomous **Multi-Agent System** that revolutionizes ethical due diligence.

1. **Continuous Surveillance:** Scans global sources for supplier activities 24/7.
2. **Contextual Intelligence:** Doesn't just match keywords—it *reasons* about severity using AWS Bedrock.
3. **Policy Alignment:** Memorizes your specific "Code of Conduct" to judge violations against *your* standards.




# ⚙️ Slide 3: How It Works (Architecture)

## Powered by AWS Bedrock Agents

- 🧠 **The Supervisor (Orchestrator):** The brain that manages the workflow and delegates tasks.
- 🕵️ **The Investigator Agent:**
  - *Role:* The "Detective".
  - *Task:* Hunts for raw intelligence, scraping news and NGO reports for potential red flags.
- ⚖️ **The Auditor Agent:**
  - *Role:* The "Judge".
  - *Task:* Uses RAG (Retrieval Augmented Generation) to cross-reference findings against the uploaded Corporate Policy PDF.



## Slide 4: Key Features

-  **Instant Risk Scoring:** Automated Red/Yellow/Green traffic light assessment.
-  **Traceable Evidence:** Every flag is cited with a specific source (e.g., "Reuters, Jan 2024") for full transparency.
-  **Dynamic Policy Adaptation:** Fully customizable—upload a new Code of Conduct, and the AI adapts its judgment criteria instantly.

## **Slide 5: Impact & Business Value**

### **Business Innovation**

- **Workflow Transformation:** Automates manual compliance checks with intelligent AI agents.
- **Operational Efficiency:** Reduces audit research time from **days to seconds**.
- **Risk Mitigation:** Proactively identifies threats before they become headlines or lawsuits.
- **Cost Avoidance:** Prevents millions in fines (EU Supply Chain Act penalties start at €250K).

### **Social Impact**

- **Human Rights Protection:** Actively fights forced labor and modern

## **Slide 6: Reusability & Scalability**

### **Built for Universal Adoption**

- **Industry Agnostic:** Works for any sector with supply chains (Fashion, Electronics, Food, Automotive).
- **Modular Architecture:** Plug-and-play agents can be repurposed for other compliance domains (GDPR, Financial Audits).
- **Multi-Language Support:** AWS Bedrock handles global news sources in any language.
- **Open Integration:** REST APIs allow seamless connection to existing ERP/Supply Chain Management systems.

# Slide 7: Technical Innovation & Future Roadmap

## What Makes This Novel?

- **Agentic AI at Scale:** True multi-agent collaboration (not just chained prompts).
- **Context-Aware Reasoning:** RAG-powered policy interpretation, not rigid rule matching.
- **Hybrid Intelligence:** Combines structured data (supplier databases) with unstructured intelligence (news, reports).

## Roadmap

- **Phase 1 (Current):** MVP with Multi-Agent Orchestration & Policy RAG.
- **Phase 2:** Real-time Global Web Search integration (Serper API).
- **Phase 3:** Blockchain verification for immutable audit logs.



## Slide 8: The Team

- **Atif Usman** - Product Owner
- **Naresh Gaddam Reddy** - Tech Lead
- **Shailendra Singh Chauhan** - Chief Engineer

## Tech Stack

- **AWS Bedrock** - Multi-agent orchestration & LLM reasoning
- **AWS Knowledge Bases** - RAG for policy interpretation
- **Kiro** - Spec-driven development for rapid prototyping
- **Python** - Agent framework implementation

**[GitHub Repo: [github.com/shailwx/ethos-chain](https://github.com/shailwx/ethos-chain)]**

## Why EthosChain is valuable

Criteria	Our Strength
<b>Innovation</b>	Novel multi-agent system pushing boundaries in Agentic AI compliance
<b>Impact</b>	Dual track: Business efficiency + Social good (human rights & environment)
<b>Feasibility</b>	Built on AWS Bedrock with working MVP, technically sound
<b>Presentation</b>	Clear problem → solution → demo narrative
<b>Reusability</b>	Industry-agnostic, modular, open integration