EthicalChain Prototype Application

As part of our comprehensive solution for transforming electronics supply chains, we developed EthicalChain - a functional web application prototype that demonstrates the practical implementation of our Integrated Ethical Governance (IEG) framework. This prototype serves as a proof-of-concept for how technology can revolutionize supply chain monitoring and ethical compliance in the electronics industry.

The EthicalChain application features a minimalist, user-friendly interface inspired by modern fintech applications, utilizing a clean color palette of white, black, green, and yellow to ensure optimal user experience and accessibility. Built with Poppins typography throughout, the platform maintains consistent visual hierarchy and readability across all components.

The prototype encompasses eight core functional modules: a comprehensive dashboard with real-time ESG scoring, supplier management with certification tracking, AI-powered monitoring center for violation detection, performance analytics with benchmarking capabilities, stakeholder engagement portals, crisis response protocols, training and certification hubs, and automated reporting systems. Each module demonstrates specific aspects of our proposed IEG framework, from real-time supply chain visibility to stakeholder empowerment mechanisms.

Key technical features include interactive supplier mapping with tier-level visualization, AI-generated violation alerts with severity classification, blockchain-verified certification tracking, worker voice integration through anonymous reporting systems, and comprehensive ESG performance dashboards. The prototype incorporates realistic data from our industry benchmarking analysis, featuring over 50 mock suppliers across different certification levels and geographic locations.

This functional prototype validates the feasibility and user experience of our proposed solution, demonstrating how multinational corporations can practically implement comprehensive supply chain monitoring while suppliers can navigate ESG compliance requirements through intuitive digital interfaces. The application serves as a tangible representation of how technology can bridge the gap between ethical intentions and operational reality in global electronics supply chains.

Prototype Link: https://ethicalsupplychain.lovable.app/

ESG Dashboard
Monitor your supply chain ethical performance

Schedule Audit   + Add Supplier

247	23	189	156	45.2K	+18%
Total Suppliers	Violations Detected	Certifications	Audits Completed	Workers Monitored	ESG Improvement
+12 this month	-8 vs last month	+15 achieved	98% pass rate	+2.1K this quarter	vs last year

Overall ESG Score

8.2
out of 10

Environmental	8.2	5.1%

Global Supply Chain

8 Active Suppliers

Social	7.6	-3.8%
Governance	8.8	3.5%

2	3	2	1
Excellent	Good	Warning	Critical

Alert Center
2 new alerts, 1 critical

View All →

Worker Safety Violation Detected new
Unsafe working conditions reported in assembly line 3
MicroParts Ltd.
2 hours ago

Environmental Compliance Issue in progress
Waste disposal not meeting local regulations
CircuitMakers Inc.
4 hours ago

Audit Schedule Overdue new
Annual compliance audit is 2 weeks overdue
ComponentTech Ltd.
1 day ago

Quick Actions

Generate Report	Supplier Review
Schedule Audit	Add Supplier

Supplier Management
6 suppliers found

+ Add Supplier

Search suppliers by name or location...   Tier All   All Certs

TechAssembly Co. Ltd
Shenzhen, China

Tier 1   Gold

ESG Score	8.7/10
Workers	2,500
Violations	0
Last Audit	2024-08-15

active   View Profile

ComponentTech Ltd
Taipei, Taiwan

Tier 1   Silver

ESG Score	7.8/10
Workers	1,800
Violations	1
Last Audit	2024-07-22

active   View Profile

CircuitMakers Inc
Bangkok, Thailand

Tier 2   Bronze

ESG Score	6.2/10
Workers	950
Violations	3
Last Audit	2024-06-10

pending   View Profile

ElectroSupply Corp
Ho Chi Minh, Vietnam

MicroParts Ltd
Kuala Lumpur, Malaysia

TechCraft Solutions
Singapore

AI Monitoring Center
Real-time ESG compliance monitoring

⟋ View Live Feed

12	**94%**	**156**	**23**
Active Alerts	AI Accuracy	IoT Sensors	Predictions

AI Alerts	IoT Monitoring	Predictive Analytics

🔍 Search alerts...   **All**   Critical   High   Medium   Low

⚠ **Worker Safety Protocol Violation**   **96%**
critical social active   confidence

AI detected workers not wearing protective equipment in chemical handling area

Supplier   **Location**
MicroParts Ltd   📍 Kuala Lumpur, Malaysia

Detected   **Evidence**
🕐 1/15/2024, 2:30:00 PM   Camera footage, Sensor data, Safety checklist

🏠 Dashboard	👥 Suppliers	🛡 Monitoring	📊 Analytics	📄 Reports

ESG Performance Analytics
Comprehensive performance insights and benchmarking

📅 Select Period   ⬇ Export Report

Performance Trends	Benchmarks	Compliance	Financial Impact

8.2	**189**	**23**
Overall ESG Score	Certified Suppliers	Active Issues
⟋ +12% vs last year	⟋ +23 this quarter	⟋ -8 vs last month

ESG Performance Trends (6 Months)

Environmental   8.2/10
██░░░░░░   +1.0

Social   7.6/10
███░░░░░░░░░░░   +0.8

Governance   8.8/10
███░░░░   +0.7

🏠 Dashboard	👥 Suppliers	🛡 Monitoring	📊 Analytics	📄 Reports

Reports & Analytics
Generate and manage ESG compliance reports

+ New Report

Generated Reports	Report Templates	Custom Builder

Search reports...   **All**   Esg   Compliance   Audit   Custom

📄 **Q2 2024 ESG Performance Report** esg completed   👁 Preview   🔗 Share   ⬇ Download

Period   **Generated**   **Size**   **Downloads**
Q2 2024   7/15/2024   2.4 MB   23

📄 **EU CSRD Compliance Report** compliance completed   👁 Preview   🔗 Share   ⬇ Download

Period   **Generated**   **Size**   **Downloads**
H1 2024   7/10/2024   1.8 MB   12

📄 **Supply Chain Audit Summary** audit generating   Generating

🏠 Dashboard	👥 Suppliers	🛡 Monitoring	📊 Analytics	📄 Reports