[Rivatrix]

TerraLITIX

WEB SUMMIT INFO PACKET

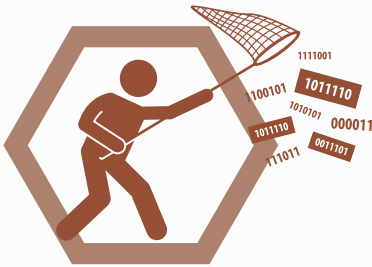NOVEMBER 2025

TERRALITIX

What is TerraLitix?
TerraLitix 1.0 is a remote platform designed for the complete digitization of soil and groundwater studies, covering everything from data collection in the field to the preparation of technical reports.
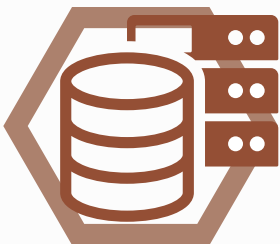
What is its purpose?
Its goal is to modernize and unify the workflow in environmental studies, facilitating the collection of information that is structured, traceable, and georeferenced.

DATA COLLECTION

ASSISTED REPORTING

SHARED ACCESS

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GEOSPACIAL VISUALIZATION

LAD DATA INTEGRATION

AI READY INFRASTRUCTURE

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INTRO

On site data collection made simple

Centralized data base infrastructure allowing for bigger better models

Data and risk analysis empowered by better data management
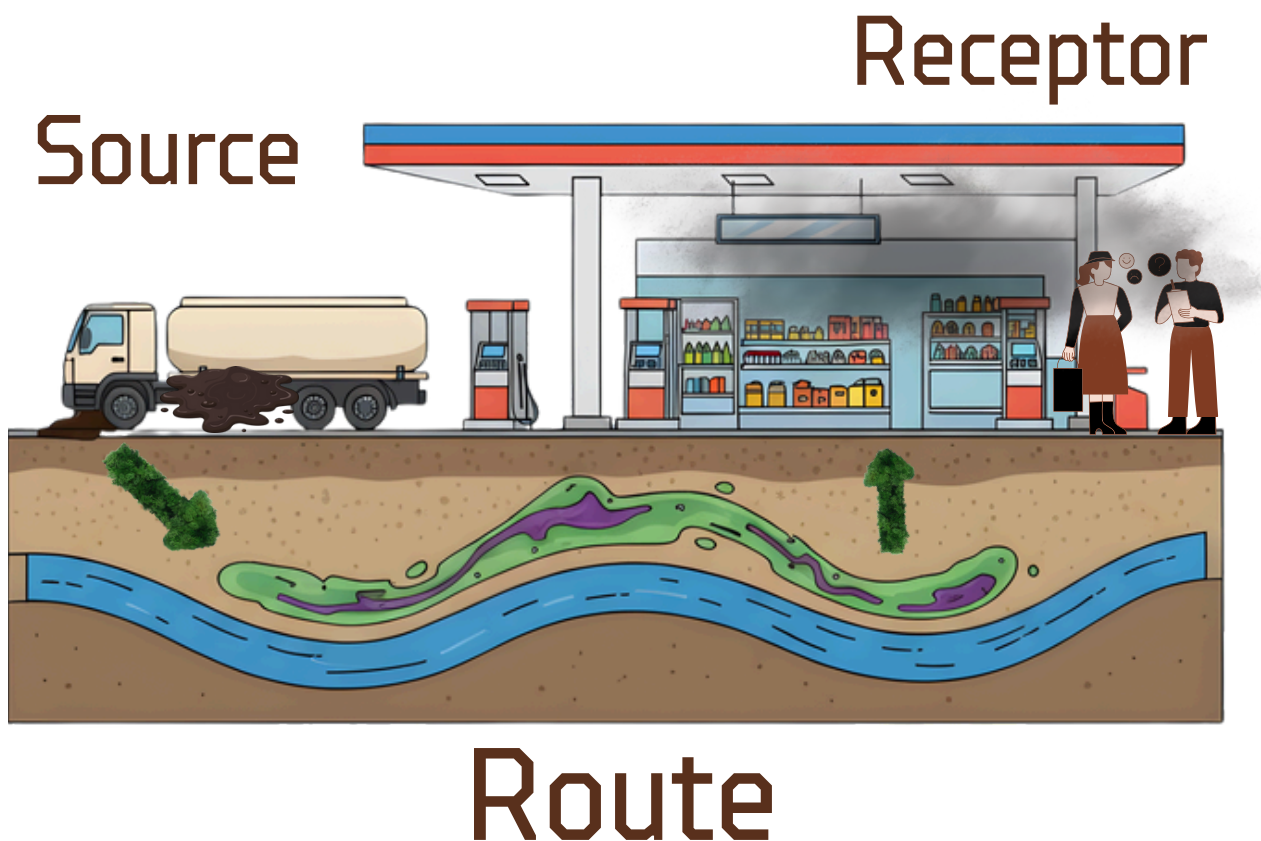
Across Europe, thousands of industrial sites, fuel stations, and public infrastructures are required by law to monitor and assess the condition of their soil and groundwater. These environmental audits are essential to detect contamination and ensure compliance — but today, most are still managed with paper forms, Excel sheets, and disconnected lab reports.

TerraLitix was created to change that. It's a SaaS platform that digitalizes the entire environmental audit workflow — from field sampling to lab data, mapping, and automatic reporting — all in one secure, traceable system. This reduces operational costs, ensures regulatory compliance, and transforms technical data into clear, actionable intelligence.

Developed in Spain and validated by early partners such as HERA Holding, TerraLitix is entering a highly regulated, fast-growing market worth over €170 million annually in Spain and Portugal alone. Our mission: to become the default digital infrastructure for environmental consulting and soil-risk management in Europe.
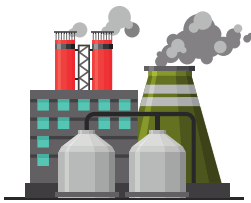
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THE RISK

Compounds, typically **volatile petroleum hydrocarbons** like benzene from a fuel spill or leaking tank, first enter the environment at the "**Source**." From there, they follow multiple "**Pathways**" to reach people. Rain can wash them deep into the soil until they reach the groundwater, where an underground aquifer (acting like a river) can carry the dissolved contaminants, or "**plume**," horizontally. At the same time, these chemicals evaporate from the contaminated soil and groundwater, turning into a toxic gas. This vapor then migrates upward through the soil pores and seeps through cracks in the building's foundation, accumulating in the indoor air. This entire process, known as "**vapor intrusion**," is what ultimately endangers the "**Receptors**"—in this case, the workers and customers inside the store—who are then exposed by unknowingly inhaling the concentrated, harmful vapors, which can pose serious long-term health risks.

Source

Receptor

Route

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THE INDUSTRY

Every industrial facility and fuel station is required by law to carry out regular environmental audits. These audits assess whether the soil and groundwater beneath a site have been affected by leaks, spills, or other industrial activity.

When contamination is detected, the site must implement a remediation project — a technical plan to clean up the affected areas and eliminate risks to public health and the environment. This process is strictly regulated, ensuring that industrial operations remain compliant and that communities stay safe from exposure to hazardous substances.

Every industrial company is bound to undergo environmental audits

Remediation Proyects

The environmental audit and remediation process involves three key groups: audit and remediation firms, which conduct the studies and cleanup operations; industrial landowners, responsible for maintaining compliance and ensuring site safety; and state environmental protection agencies, which supervise, approve, and certify each stage of the process.

TerraLitix serves all three stakeholders by providing a unified digital platform that simplifies collaboration, guarantees data traceability, and ensures that every project — from field sampling to regulatory reporting — meets the highest environmental and legal standards.
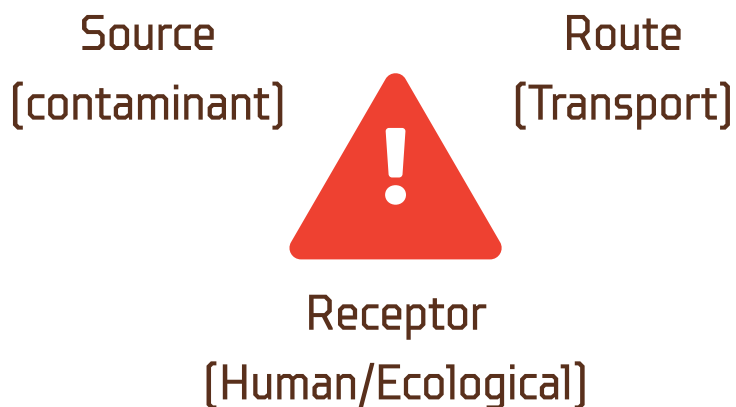
Audit and Remediation Firms

Industrial Land Owners

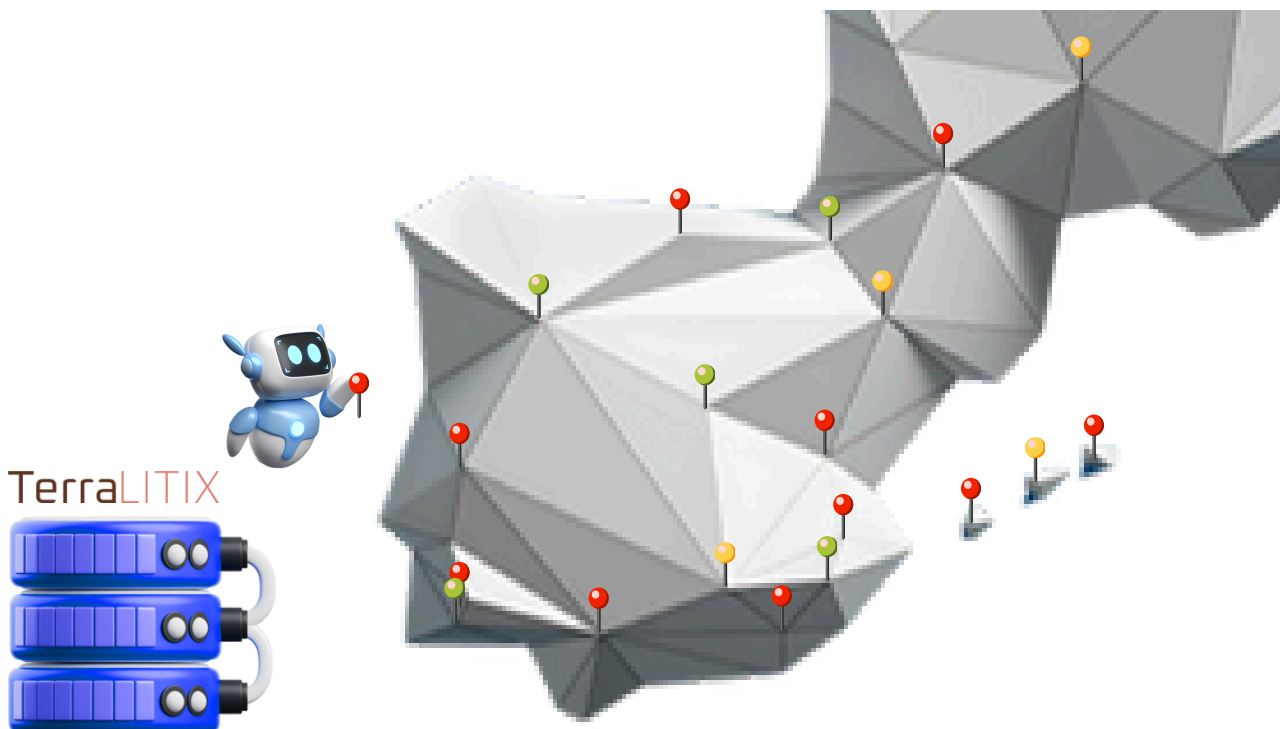**State Environmental Protection Agencies**

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THE MODEL

Triangle of Risk

Source
(contaminant)

Route
(Transport)
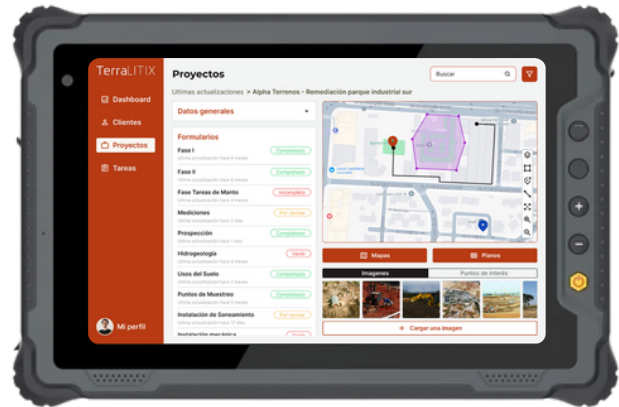
Receptor
(Human/Ecological)

The "**Triangle of Risk**" is the fundamental logic engine and foundational principle upon which the entire software operates. It dictates that for a risk to be calculated, three components must be present and connected: a **Source**, which is the contaminant itself (e.g., Benzene in the soil); a **Pathway**, which is the physical mechanism for the contaminant to travel (e.g., vapor intrusion or groundwater flow); and a **Receptor**, which is the human or ecological entity that could be harmed (e.g., an office worker or a resident).

TerraLitix revolutionizes the environmental audit process by transforming the **Conceptual Site Model** (CSM) from a static document into a dynamic, evolving GIS database.
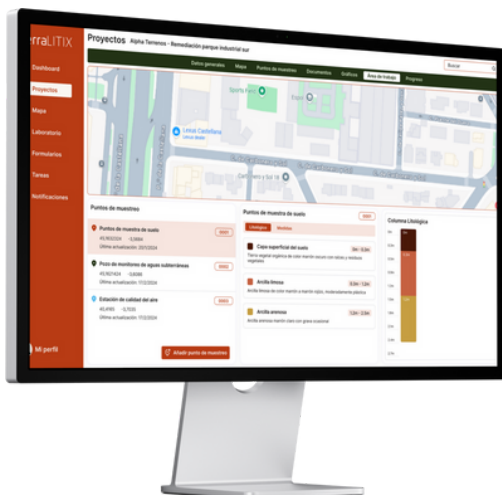
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THE PROCESS

A **technician** begins by using the platform to register the **entire site**, visually mapping all potential Sources (like tanks or spill areas), Pathways (like soil types or underground rivers), and Receptors (like residential buildings or wells). This live, map-based CSM immediately provides the necessary framework to begin running mathematical risk models.

As the investigation deepens, the technician registers field measurements (e.g., from a photoionization detector), which TerraLitix automatically compares against local Risk-Based Screening Levels (RBSLs) to provide an instant, on-site risk determination.

This initial data helps the platform guide the technician on where best to probe (drill) next. The technician then registers these new drillings and their detailed lithological profiles, effectively expanding the CSM from a 2D map into a **3D subsurface model**. As sample analyses return from the lab, their concentrations are logged, allowing **TerraLitix** to map the contaminant's spread and a plume's boundaries. Furthermore, by registering piezometer wells, the platform builds and exports a complete historical progression of measurements, which is critical for trend analysis.

The ultimate vision for this collected data is to empower an AI engine: by combining anonymized data from different sites, TerraLitix will build quantitative, national-scale models to help predict environmental risks before they come to fruition.

TerraLitix.com

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