

SOLYRA: OFFICIAL USER GUIDE



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A Probabilistic Geospatial Deduplication and Triage Framework

1. Introduction: What is Solyra?

Welcome to Solyra. In high-density refugee settlements and disaster zones, reporting is often chaotic. Multiple people report the same incident, while other critical issues go unnoticed.

Solyra is not a replacement for your existing GIS tools (like ArcGIS or KoboToolbox). Instead, it is a decision-support augmentation layer. It uses advanced probabilistic algorithms to group overlapping reports into single "Event Nodes," helping you see a clear, coordinated picture of the crisis without the noise of duplicate data.

2. Getting Started & Data Ingestion

Solyra is built for low-connectivity environments. You do not need a persistent internet connection to use the system.

- **Reporting Channels:** Solyra automatically ingests data from multiple sources, including SMS, mobile apps, web interfaces, and API integrations.
- **Offline-First Sync:** If you are in the field without a signal, the system will cache your actions and synchronize asynchronously once connectivity is restored.

3. Navigating the "Living Map"

The core interface of Solyra is the **Living Map**. Unlike traditional maps that show static, definitive pins, the Living Map visualizes uncertainty.

Instead of individual reports, you will see **Event Nodes** (clusters of reports that likely refer to the same incident). Clicking on an Event Node reveals:

- **Confidence Score:** The system's calculated probability that these reports are the same event (based on time, location, semantics, and source reliability).
- **Source Diversity:** How many different channels/people reported this.

- **Temporal Evolution:** A timeline of when the reports came in.
- **Uncertainty Bounds:** The geographic radius the event likely covers.

4. The Triage System: Red, Yellow, Green

Solyra categorizes every Event Node into one of three reversible triage states. Your primary job as a coordinator is to manage these states:

-  **RED (Actionable):**
 - *What it means:* High-confidence incidents supported by strong multi-source evidence.
 - *Action:* Deploy resources or field teams immediately.
-  **YELLOW (Uncertain):**
 - *What it means:* Partially validated incidents or conflicting reports requiring further verification.
 - *Action:* Request additional evidence or send a scout to verify before committing heavy resources.
-  **GREEN (Resolved):**
 - *What it means:* The incident has been addressed.
 - *Action:* Retained on the map for historical continuity. *Note: If new reports arrive matching this location/event, the system will automatically reactivate it to Yellow.*

5. Best Practices & Human Responsibility

- **Do Not Blindly Trust the AI:** Solyra is a *decision-support tool*, not an autonomous commander. Aggressive merging of reports can sometimes hide distinct incidents. Always use your contextual judgment.
- **Privacy by Design:** Solyra minimizes data collection to operationally relevant fields. You will not see Personally Identifiable Information (PII) on the map, ensuring compliance with UN OCHA and GDPR guidelines.