



PROVINCIA AUTONOMA DI TRENTO



TRENTINO

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# AI Application Perspectives in Land Registration

Balancing Regulatory Frameworks and Human Readiness

**Alessandro De Gaetano**

Conservatore del Libro Fondiario

IMOLA IV Closing Conference | June 4th 2026 - Brussels

**ELRA20**

European Land Registry Association ANNIVERSARY

**IMOLA**

Interoperability Model for Land Registers



## STRATEGIC VISION

# A Mindful, Compliant Approach

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Strategy for compliance and human alignment.

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# THE DUAL ALIGNMENT STRATEGY



## ➤ 1. Regulatory Compliance

Our current focus is on **practical implementation**, reflecting a deliberate decision to ensure all future AI tools adhere strictly to evolving regulatory frameworks and European guidelines.

We are mapping our requirements directly against the **EU AI Act requirements for high-risk legal systems**, safeguarding transparency, auditability, and public trust.

## 2. User & Staff Needs

Technology cannot succeed in a vacuum. We make sure that our tools match the exact needs of our citizens, external professionals, and internal workforce.

To achieve this, we launched an extensive **internal survey** to capture the human baseline of our organization.

# SURVEY METHODOLOGY & OBJECTIVES

## Mapping the Human Capital



Our internal study, titled "*Artificial Intelligence in Land Registration*", was designed to investigate the **real impact of automation on everyday practices**.

By measuring the digital literacy, expectations, and specific fears of our staff, we ensure that future AI deployment serves as an **effective support system** rather than an obstacle. The results were extensively presented last year at the ELRA Workshop on June 11th, which was held in Trento.

# SURVEY RESULTS: KEY HIGHLIGHTS

## Synthesizing Employee Perspectives

We analyzed the responses from the staff members to understand the **current digital climate** within the Land Registry and where to start with the implementation of AI.

Key focus areas include:

- **Digital Competencies:** Baseline skills and familiarity with AI tools.
- **Opportunity Mapping:** Identifying where automation adds the most value.
- **Risk Assessment:** Addressing fears regarding privacy and job stability.

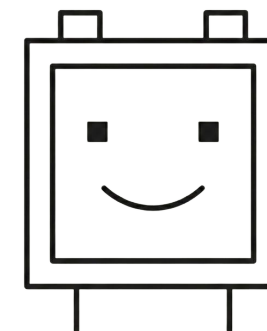


## THE "HUMAN-IN-THE-LOOP" CORE

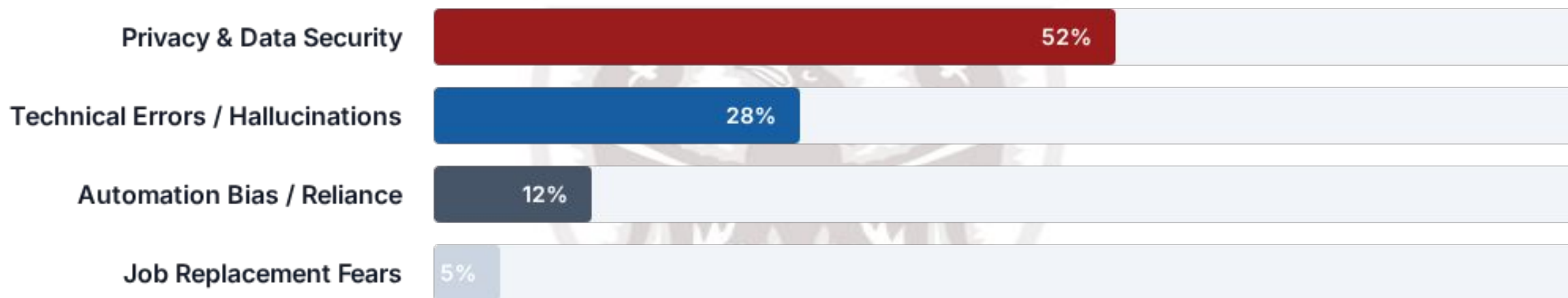
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AI is widely welcomed as an administrative assistant, but the final legal validation must remain strictly a non-delegable human responsibility.

— UNIFIED CONSENSUS FROM THE SURVEY



## PERCEIVED RISKS & TECHNICAL CONCERNS



*Key Takeaway: Staff is comfortable with its professional role; the primary concern is the **legal integrity and safety** of public data.*

# PERCEIVED RISKS & TECHNICAL CONCERNS

## Environmental sustainability

**Survey Insight:** The questionnaire revealed high staff sensitivity regarding the carbon footprint and energy consumption of AI.

**Strategic Response:** Prioritizing energy-efficient, localized, and optimized LLMs over high-energy general models to guarantee a sustainable digital transition.



## PERCEIVED RISKS & TECHNICAL CONCERNS

### Answering the Demand for Training (Automation Bias)

**Survey Insight:** Staff strongly requested targeted training to safely manage the shift, fearing uncritical reliance on technology.

**Strategic Response:** Developing specific modules to mitigate "Automation Bias" (the tendency to trust machine output without scrutiny).

**Human Sovereignty:** Fostering professional skepticism, ensuring staff treat AI strictly as a drafting assistant while the judge's and registrar's assessments remain sovereign.



# PRACTICAL NEEDS & CONCRETE USE CASES



## Data Extraction \*

Automating OCR and basic field ingestion from complex notary deeds to optimize workflow.

*\* Nuanced legal language remains a critical barrier for LLM precision in property acts.*



## Consistency Checks

Automated background matching between incoming deed data and the active registry database.



## Semantic Retrieval

Intelligent search cross-referencing digitized historical archives and local judicial precedents.

# CHATBOTS: DECODING COMPLEXITY

## The Complexity Barrier for Citizens

**Technical Legacy:** Rooted in historical legal frameworks, the language is highly specialized.

**The Interpretation Hurdle:** Obtaining the document is easy; understanding what it *means* is the real challenge.



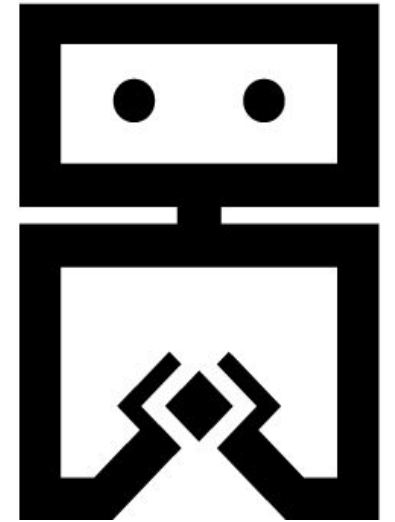
# CHATBOTS: DECODING COMPLEXITY

## Translating Complexity into Clarity

**Natural Language Processing (NLP):** Allows citizens to ask questions in plain language (e.g., "Is there a mortgage on this house?").

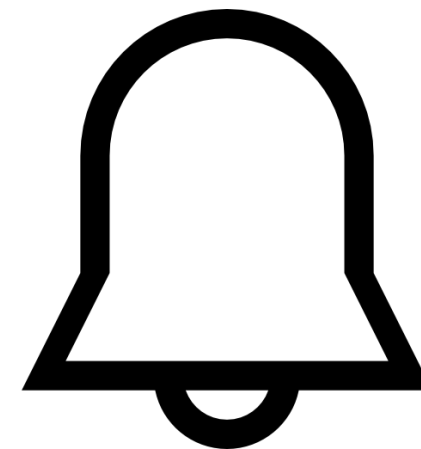
**Terminological Help:** Explains terms like "Intavolazione" or "Prenotazione" in simple words.

**24/7 Availability:** Citizens no longer need to wait for office hours for simple consultations to understand their own records.





**Status Tracking:** Automated alerts when a new decree is processed, ensuring transparency and trust.



# CHATBOTS: DECODING COMPLEXITY

## Bridging legal systems

“**Tavolare** (or Libro Fondiario)”: In force in Trentino and other former Austro-Hungarian provinces (inherited from the Austrian legal framework after WWI).

“**Trascrizione**”: Used in the rest of Italy, modeled after the French land registry system.

**The Friction:** Managing two completely different property registries creates significant hurdles for both citizens and professionals.

**The AI Solution:** A conversational chatbot acts as an intelligent bridge, simplifying Land Book navigation for all users.



## CONCLUSION

### The dual role of AI

For the **Administration**: Enhancing the Registrar's workflow by automating mechanical operations under strict human oversight.

For the **Public** (Our Current Focus): Providing crucial assistance to end-users to make the system accessible to everyone.

