EVOLUTION TOWARDS REAL-TIME INFORMATIC UPDATING IN THE CADASTRAL FIELD

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SUMMARY

The modernization of the land registry in Italy represents one of the most significant aspects of public administration reform in recent years. The land registry, which serves as the official archive of the country's real estate properties, plays a crucial role in the fiscal, urban planning, and territorial systems.

The use of digital systems is profoundly transforming the land registry sector, leading to greater efficiency in the management of territorial and real estate data, with the aim of improving accuracy, accessibility, and transparency. The innovations introduced mainly concern process automation, document digitization, and the use of advanced technologies for data analysis and visualization. In particular, Italy has introduced automatic land registry approval, a digital system designed to streamline and enhance the efficiency of cadastral procedures. Essentially, through the use of advanced technologies, it is possible to automatically manage the approval of certain cadastral procedures, including Pregeo and DocFa, reducing processing times and improving the accuracy of the process.

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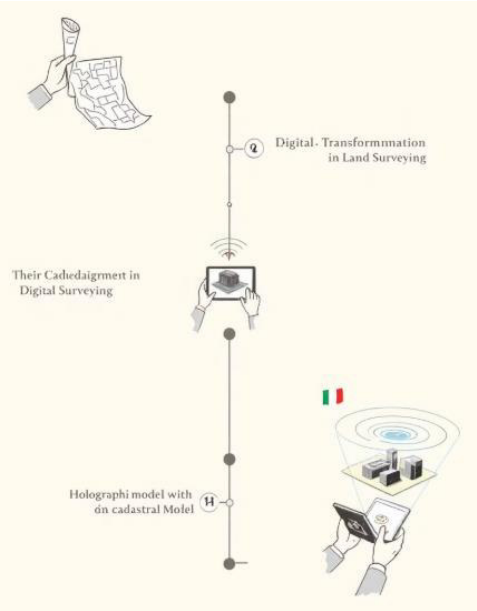
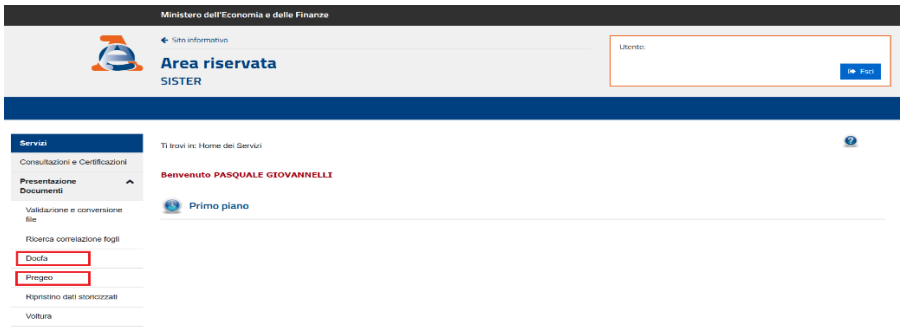
1. INTRODUCTION



The history of the digital transformation of the Land Registry dates back to the 1980s, with the first steps toward automation, followed by key regulatory measures in 1999 and 2010 that laid the foundation for the Integrated Real Estate Registry. This transformation aimed to improve data quality, simplify administrative procedures, and enhance territorial monitoring.
The automatic approval of the land registry, particularly concerning DOC.FA. (Building Cadastre Documents) and PREGEO (Geometric Act Preprocessing), represents a significant innovation in the real estate sector. This process, introduced to streamline procedures and reduce waiting times, relies on computer algorithms that automatically verify the accuracy and consistency of the data submitted in declarations.

2. IT SYSTEM OF THE REVENUE AGENCY

The Italian Revenue Agency, through the technological evolution of its IT systems, has implemented an advanced digital system for managing and approving cadastral procedures, supported by the SISTER portal (Interchange System for Territory). This system enables professionals and accredited users to interact efficiently with the land registry, ensuring transparency, speed, and accuracy in processing cadastral applications.



2.1 DESCRIPTION OF THE IT SYSTEM

The IT system for the automatic approval of cadastral procedures is based on an advanced digital platform designed to optimize processing times and reduce errors. Its main features include:

2.1.1 Automation of Procedures

The system uses automatic validation algorithms to verify the formal and technical accuracy of submitted applications. These checks include:

- Verification of cadastral data.
- Comparison with official databases.
- Compliance with current regulations.

2.1.2 Integration with the SISTER Portal

The SISTER portal serves as the main interface for accessing cadastral and cartographic services, offering:

- Cadastral data consultation: Users can view maps, documents, and cadastral records.
- Submission of applications: Professionals can upload technical documents for cadastral updates.
- Digital payment management: Integration with the PagoPA payment system for cadastral fees.

2.1.3 Regulatory Support and Transparency

The automation of procedures complies with current regulations and ensures process transparency, making all approval stages accessible to users.

2.2 THE SISTER PORTAL

The SISTER Portal (Interchange System for Territory) is an advanced digital tool developed by the Italian Revenue Agency, designed to simplify the management of the land registry and cartography. It serves as the operational hub for interactions between professionals and the cadastral system. Its main functionalities include:

2.2.1 Cadastral Data Consultation

Through the SISTER portal, users can access official information related to:

- Properties and land registered in the cadastre.
- Cadastral surveys.
- Map extracts.
- Historical documents related to parcels and real estate units.

2.2.2 Management of Cadastral Procedures

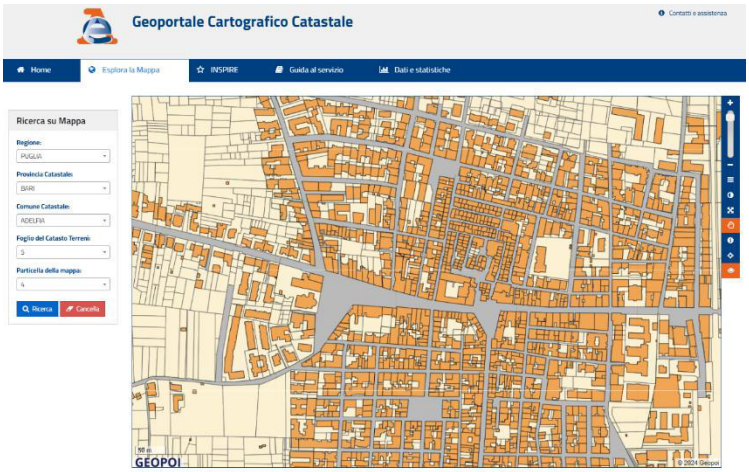
SISTER allows the submission and management of cadastral update requests, including:

- DOCFA (Building Cadastre Documents): For cadastral changes related to properties.
- PREGEO (Geometric Act Preprocessing): For cartographic updates and land parceling.
- Other tools for administrative modifications or corrections of cadastral errors.

2.2.3 Digital Cartography

The portal provides a visual representation of the territory with map extracts and cartographic data. This tool is useful for:

- Geographic and territorial analysis.
- Viewing cadastral boundaries
- Verifying the location of properties.



2.2.4 Payment Management

SISTER is integrated with the PagoPA electronic payment system, allowing users to:

- Pay cadastral taxes and fees.
- Monitor the status of transactions

2.2.5 Dedicated Access for Professionals

SISTER is primarily designed for technical professionals (surveyors, architects, engineers) and notaries, who can:

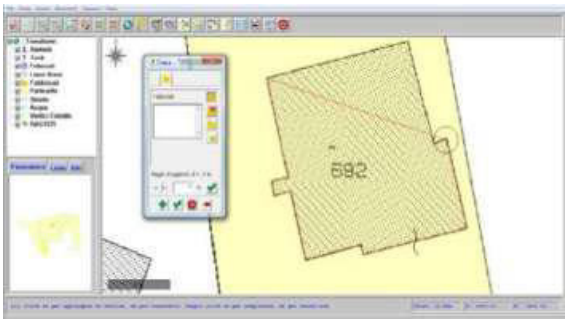
- Quickly submit and manage technical applications.
- Consult cadastral and cartographic information for professional activities.

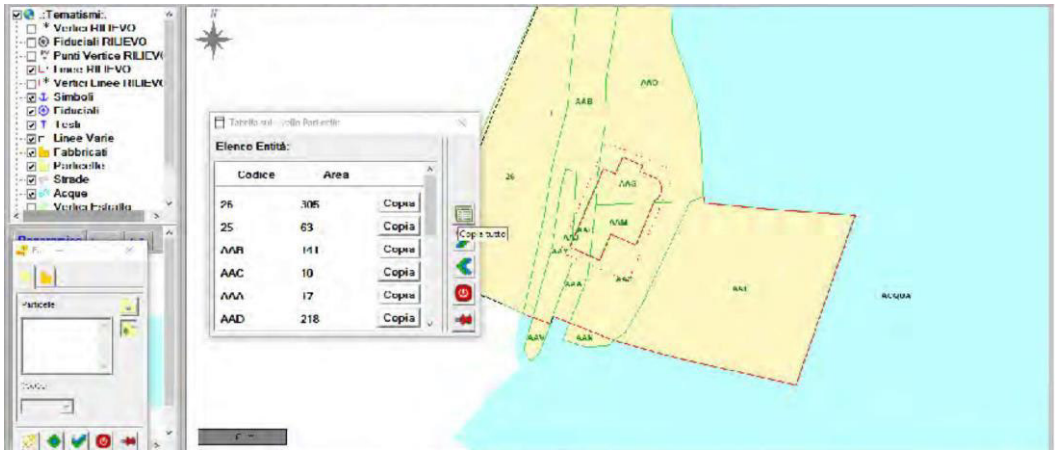
3. UPDATE PROCEDURES

While the formation of the land registry was handled by the State, its updates are primarily the responsibility of property owners, who must rely on licensed professionals to prepare cadastral update documents.
With the digitization of cadastral records, the cadastral administration has progressively introduced procedures for submitting updates in digital format and transmitting cadastral change requests online. These procedures aim to enable real-time registration of the proposed updates' outcomes in the databases.
For the Land Cadastre, cartographic update documents are prepared using the PREGEO procedure. Meanwhile, updates related to the Building Cadastre are carried out using the DOCFA procedure.

4. PREGEO: PROCEDURE FOR THE LAND CADASTRE

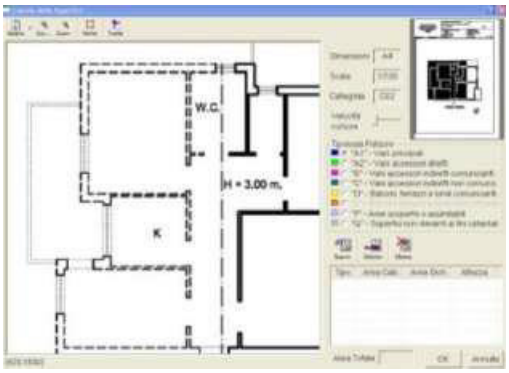
Regarding the Land Cadastre, changes to cadastral parcels are made through the submission of the following update documents:
- Subdivision plan: Used to divide one or more parcels into new, geometrically distinct parcels.
- Map type: Required when a new building or stable construction is erected on a parcel or when an existing structure is expanded.





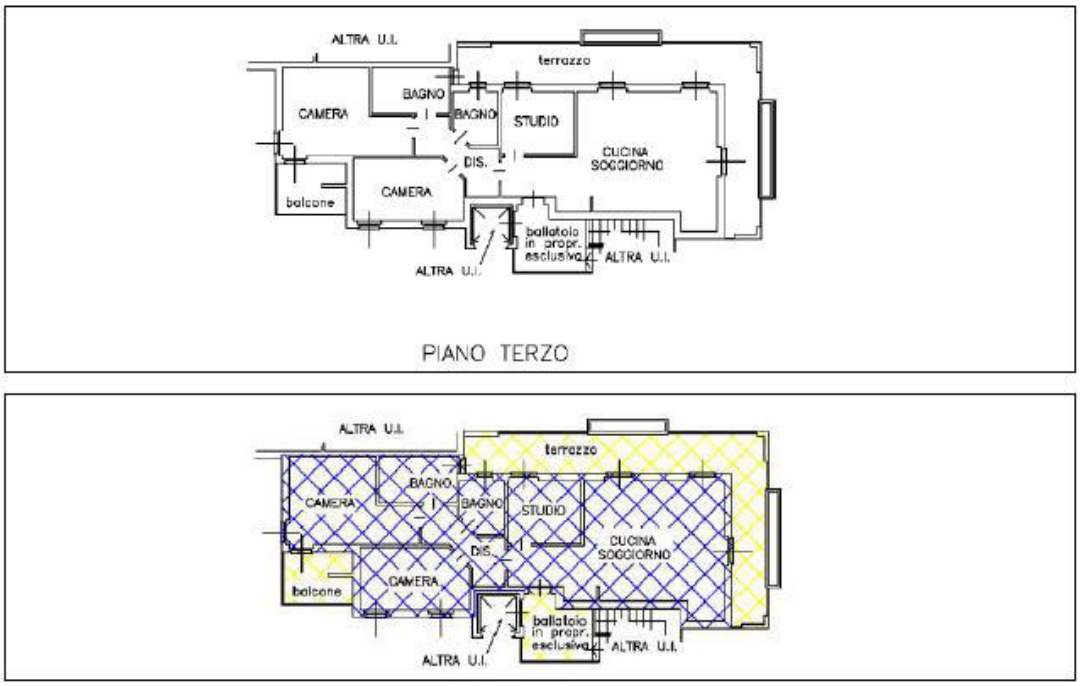
These updates are prepared using the PREGEO (Geometric Act Preprocessing) digital procedure, which enables updates to both the cartographic archive and the census archive of the Land Cadastre. The PREGEO software, developed by the Revenue Agency and provided free of charge to professionals, allows for the automatic processing of cadastral acts and updates. The system operates quickly, efficiently, and transparently, requiring no manual intervention by an operator.

5. DOCFA: PROCEDURE FOR THE URBAN BUILDING CADASTRE



For the Urban Building Cadastre, technical update documents are required in the following cases:
- New constructions – When a new building or another permanent structure is constructed.
- Modifications to existing properties – When structural or functional changes alter the state or size of previously registered real estate units.

To prepare these updates, licensed professionals use the DOCFA (Building Cadastre Documents) procedure. This system allows the creation of digital files containing graphic information (floor plans and technical drawings) of the real estate units undergoing registration or modification.



6. AUTOMATIC APPROVAL OF CADASTRAL DOCUMENTS

To streamline procedures and reduce processing times, a new conceptual model has been introduced in recent years, replacing the previous system. This model allows for the fully automated processing of all geometric update documents, incorporating new controls and improved functionalities. These enhancements make it easier for professionals to prepare and submit cadastral updates efficiently.

7. COMPARISON BETWEEN THE OLD AND NEW APPROVAL SYSTEM

The technological advancements of the Italian Revenue Agency have led to significant changes in the way cadastral procedures are managed and approved. Below is a comparison between the old manual system and the new automatic approval system.

7.1 APPROVAL PROCEDURE

7.1.1 Old System

- Manual processing: Cadastral applications were submitted physically or digitally and reviewed by agency staff.
- Human intervention: Each request required a detailed review by an officer to ensure compliance with technical and regulatory standards.
- Long processing times: Due to the complexity and variety of cases, approval could take days or even weeks.

7.1.2 New System

- Automation: Applications are analyzed and validated automatically using sophisticated algorithms.
- Reduced human intervention: Compliance and consistency checks are performed automatically, reducing the workload for officials.
- Speed: Automatic approval allows some applications to be processed within minutes or hours, depending on their complexity.

7.2 ACCURACY AND QUALITY OF CONTROL

7.2.1 Old System

- Thorough but variable checks: The quality of the review depended on the experience and expertise of the officer.
- Risk of human errors: Manual analysis was prone to inaccuracies or subjective interpretations.

7.2.2 New System

- Standardized checks: Algorithms follow predefined, uniform criteria, ensuring consistency in verification.
- Reduced errors: The use of digital tools minimizes procedural or interpretative mistakes.

7.3 USER INTERACTION

7.3.1 Old System

- Direct interaction with staff: Applicants often needed to communicate with officials for clarifications, additional documents, or corrections.
- Potential lack of transparency: Users did not always have full visibility into the status of their applications.

7.3.2 New System

- Digital portal (SISTER): Users can submit, track, and manage applications online without in-person interactions.
- Transparency: Each stage of the process is tracked and visible to users via the portal.

7.4 COSTS AND RESOURCE UTILIZATION

7.4.1 Old System

- High operational costs: A large number of staff was required for manual processing.
- Time-consuming: Applications required more resources and longer processing times.

7.4.2 New System

- Cost efficiency: Digitalization allows for a greater number of applications to be processed with lower operational costs.

- Optimized workforce: Staff can focus on complex cases or tasks requiring advanced technical judgment.

8. THE OPERATION OF AUTOMATIC APPROVAL

The system uses algorithms to automatically analyze the data of submitted applications, assessing complexity and compliance with cadastral regulations. The process works as follows:

- Submission of the Declaration: A licensed professional (e.g., surveyor, architect) fills out the DOCFA/PREGEO application and submits it electronically to the Revenue Agency.
- Automatic Verification: The system checks the declaration by comparing the entered data with existing database records.
- Approval or Rejection: If the application is correct and consistent, it is approved automatically within minutes. Otherwise, the system flags errors or inconsistencies, requiring corrections from the professional.

9. BENEFITS

- Simplification of procedures and reduced waiting times: Automation significantly shortens processing times, which would otherwise take weeks or months in a fully manual system.
- Minimization of human errors: Algorithms follow strict rules, reducing common mistakes in manual processes.
- Greater transparency and efficiency: Automated tracking improves clarity for both citizens and professionals.
- Facilitation for professionals: With dedicated technical software approved by the Revenue Agency, automatic approval reduces waiting times, allowing professionals to obtain results immediately, thus accelerating project completion.

10. LIMITIS AND CONSIDERATION

Not all cadastral applications can be automatically approved. Complex cases or significant modifications may still require manual review by an operator. Additionally, the system's implementation requires regulatory adjustments and technological investments.

11. POSSIBLE FUTURE DEVELOPMENTS

- Expansion of the procedure: The automatic approval system is expected to be extended to cover additional types of cadastral applications.
- Integration with other systems: Linking cadastral approval with municipal databases and land management systems could improve efficiency.

- Development of new features: Future functionalities may include cadastral simulation tools or automatic property valuation, further enhancing the system's usefulness for both professionals and citizens.

12. CONCLUSION

Italy is currently implementing digital transformation initiatives under the National Recovery and Resilience Plan (PNRR), aiming to modernize public services, reduce waiting times, and improve administrative efficiency.
Automatic approval in the cadastral sector represents a revolutionary shift, transforming how property records are managed. Despite current limitations, this innovation offers numerous advantages and paves the way for future improvements that will further simplify interactions between citizens and public administration.
With strategic planning, the cadastral sector can successfully navigate these challenges and fully benefit from digital transformation.

CONTACTS

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