Monitoring of Cadastral Cartography Through the Use of Artificial Intelligence Aimed at Protecting Public Assets

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SUMMARY

The rise of Artificial Intelligence will certainly shape our world. Therefore its implementation in our profession will be unavoidable.

Our study aims at showing how, through the use of artificial intelligence, it is possible to intervene to detect, correct or highlight the 'errors' in the cadastral cartography. In particular those concerning public assets like the location of private and public roads. It may also include their layout and route.

In our cadastral system and cartography there are numerous imperfections such as the failure to register some private and public roads. In some cases these roads are not registered in the municipalities registers.

In the specific case of our cadastral mapping, there are several inaccuracies, including the non-census of some roads, both private and public, which means that they are not listed in the Municipal Road Register to which they belong. In fact, not being aware of their existence creates quite a few problems during the first planning phase and subsequently also during the realization of complementary works concerning them. Some difficulties may also be encountered in the simple management of their ordinary and extraordinary maintenance.

The goal is to raise awareness and facilitate control and collaboration among territorial agencies, municipalities or road manager, surveyors. and land surveyors.

The primary focus is on trying to raise awareness and facilitate control, but also to create greater cooperation between the Land Registration Agency, municipalities, road management network

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bodies and surveyors.

The constant overlapping of GIS cartography and the existing cadastral cartography, through the use of an alert generated by specific algorithms based on Artificial Intelligence, would guarantee a constant control and consequently a possible correction and insertion into the proper registers.

All this would be achieved through the involvement of surveyors, appointed by municipalities, who would amend the cadastral mapping on behalf of the bodies in charge.

This professional possibility would put the figure of the surveyor back at the center of the constant cartographic update work, commissioned and managed by public administrations, allowing flexibility and cooperation between the different local and national bodies.

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