

Reliability Aspects of the German Cadastre*

Björn Degel

Summary

The German cadastral system enjoys a good international reputation, in particular as it guarantees a high degree of legal certainty. It also sets high technical standards. Focussing on aspects of reliability, the author gives a short overview on the historical development of the cadastre in Germany and the administrative structure. He takes a look at the contents of the cadastre and explains the interaction with the land register. Legal and technical aspects of the reliability of the German cadastre are highlighted.

Zusammenfassung

Das deutsche Katasterwesen genießt international einen guten Ruf, insbesondere da es ein hohes Maß an Rechtssicherheit gewährleistet. Aber auch in technischer Hinsicht setzt es hohe Standards. Unter dem Gesichtspunkt der Zuverlässigkeit gibt der Autor einen kurzen Überblick über die historische Entwicklung des Liegenschaftskatasters in Deutschland

* This article is based on a presentation at the conference of the Permanent Committee on Cadastre in the European Union in Vienna on 20/21 November 2018 with the title "Let's Talk About (Legal) Reliability of the Cadastre"

und die Struktur der Katasterverwaltung. Er betrachtet den Inhalt des Liegenschaftskatasters und erläutert das Zusammenwirken mit dem Grundbuch. Rechtliche und technische Aspekte der Zuverlässigkeit des deutschen Katasters werden hervorgehoben.

Keywords: German cadastre, German land registry, contents of the cadastre, coordinate-cadastre, "einwandfreie Vermessung"

1 History of the German cadastre

Although the first cadastre was established in 1667 in Hessen-Darmstadt (Freese 2009), most of the cadastral systems in Germany were established in consequence of the French Revolution, in order to reach a more fair taxation of real properties (Bauer et al. 2010). In 1807 the surveying for a parcel-sharp cadastre in the Napoleonic Empire began but could not be completed during Napoleon's reign. With the resolutions of the Congress of Vienna in 1815, national borders in Europe were redefined and French troops had to leave German territory.

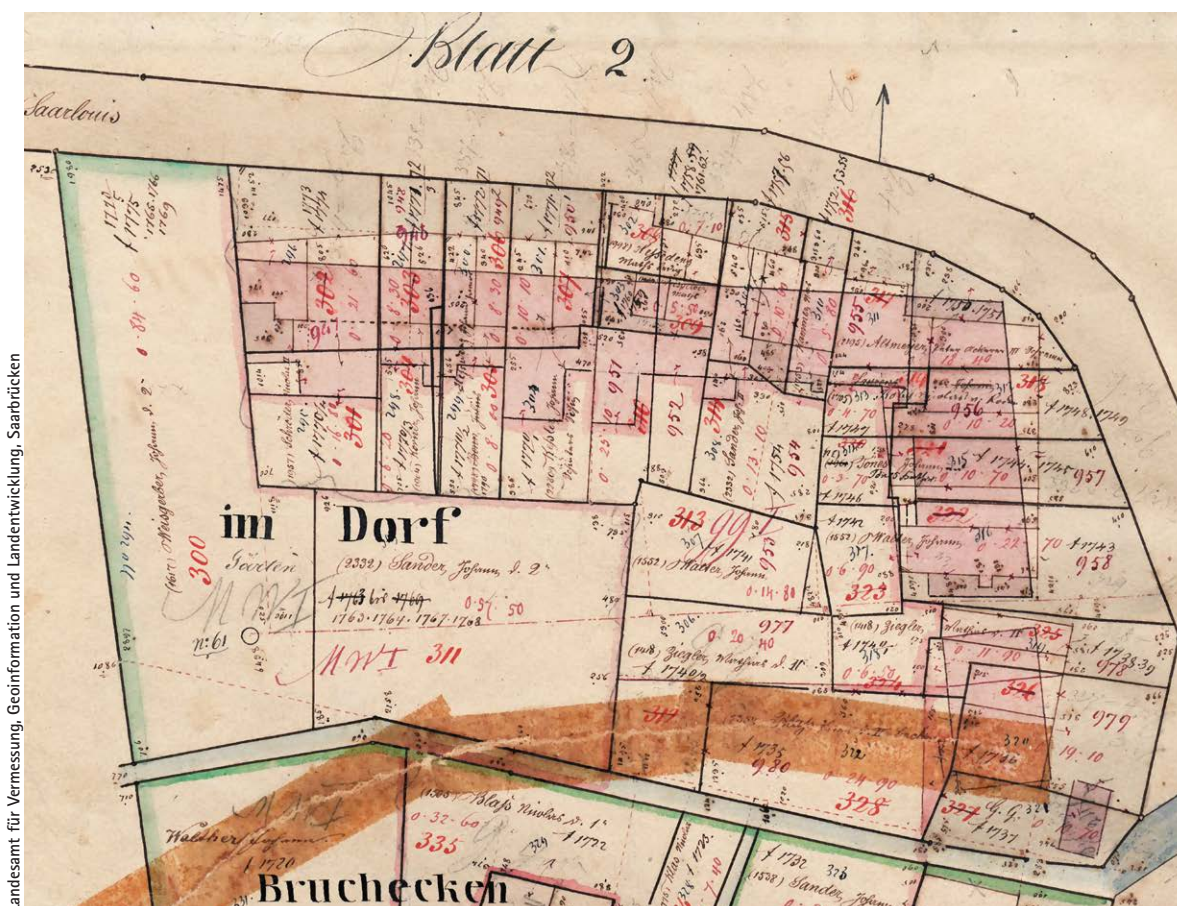


Fig. 1:
Extract
from a
Prussian
"Urhand-
riss"

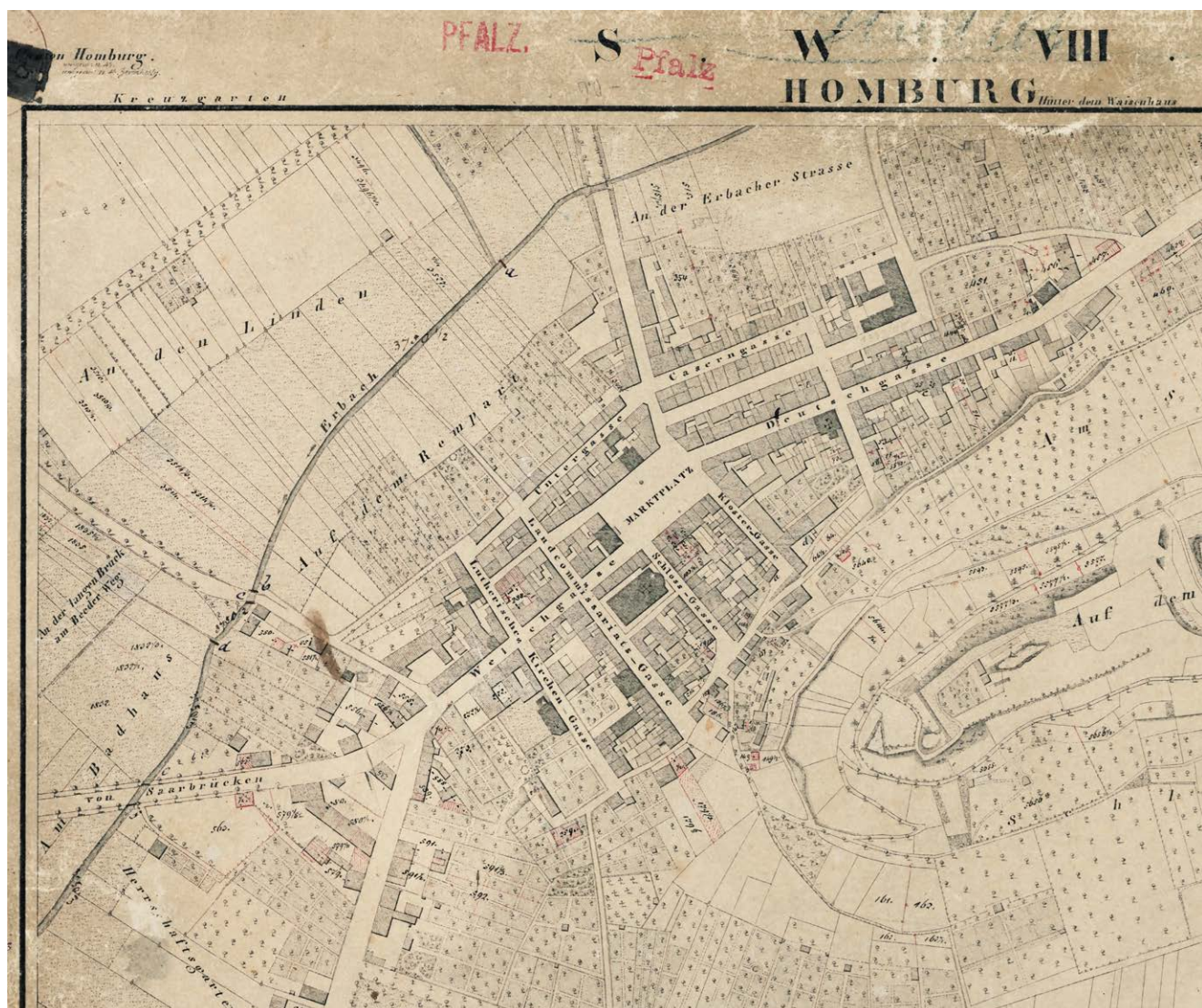


Fig. 2: Extract from a "Bayerische Urkarte"

Even though in some states of the German Confederation (Deutsche Bund) the French "code civil" stayed in force and in particular the cadastre in Prussia followed the French model very closely. In contrast to the Prussian development Bavarian cadastre e.g. didn't follow the French model (Stein 2005). While the measured survey results of the Prussian original survey were documented in a so-called "Urhandriss" (Fig. 1), the Bavarian cadastre was directly mapped into a framework according to the plane table method in scales of 1:5000 or 1:2500, "Bayerische Urkarte" (Fig. 2), without documenting measured length and angles (Seeberger 2001).

On 1 January 1900, the German Civil Code, "Bürgerliches Gesetzbuch (BGB)", entered into force. Along with the BGB, the German Land Register Code, "Grundbuchordnung" (GBO), also came into effect. The former tax-cadastre was transformed into a property-cadastre, as the cadastral map is legally considered a part of the land register. This process was confirmed by the Supreme Court in 1910 with the sentence of the German Reichsgericht. Data of the cadastre then finally participate in the public faith of the land register (Reichsgericht 1910).

The legislative power for the cadastre was still under the authority of the federal states.

This changed in the period of National Socialism. The act on the reorganization of the surveying sector (Gesetz über die Neuordnung des Vermessungswesens 1934) declared the cadastre a Reich matter. This so called "Reichskataster" set first German-wide standards. Amongst others, the appraisal of soil, "Bodenschätzung", became part of the cadastre (Gesetz über die Schätzung des Kulturbodens 1934) which was the first step into a multi-purpose-cadastre.

By the end of World War II, Germany was divided. While the western part became the Federal Republic of Germany (FRG), the eastern part became the German Democratic Republic (GDR). According to Article 70 of the German Federal Constitution, "Grundgesetz", cadastre in the FRG became Länder-law again.

The "Einheitskataster" of the GDR was merged with the land register (Krause 2008). At the same time a separation process on land and building ownership was set in motion and land was transformed into "Volkseigentum". Until the German reunion on 3 October 1990 the

“Einheitskataster” has become more and more unusable as a property protection system. After the German reunification, Western-German cadastre served as a role model for the five new Länder. Consequently, cadastre and land register became separated again. A big task was the merging of the separated land and building ownership. Helpful in this process was the land segregation act (BoSoG 1993) which allowed quickly forming marketable plots of land (Lucht 2010).

2 Organization of the cadastral administration

The German cadastre lies within the responsibility of the Länder. Due to this there is no uniform cadastre in formal terms. Each of the 16 Länder has its own cadastral law. While these laws are unified in their general regulations, different regulations, especially concerning the responsible authorities, remain (Zeddies 2008). The Working Committee of the Surveying Authorities of the Länder of the Federal Republic of Germany, AdV, as the German umbrella organisation recommends standards on cadastre, state survey and topographic mapping.

In contrast to the organization of the German cadastre, legislative power for land registry lies within the competences of the German federation. Land register itself is administrated by the Länder. It is maintained by legal experts at the local courts. Decisions can only be overruled by a higher court (Wilsch 2012).

3 Contents of the German cadastre

Property-cadastre contents are the cadastral book as a copy of the owner information of the land register, the cadastral map and the set of numbers, “Zahlenwerk”, which consists of the documentation of the measurements and the point register with precise coordinates (Bauer et al. 2010).

Up to now, the land registry database is not more than an auxiliary file. Legally binding however, is the written entry in the land registry. A constant data exchange between cadastre and land registry is retained both by means of analogue and digital data exchange. The Land Register Database, “Datenbankgrundbuch” (DaBaG), will bring far-reaching changes not only to the GBO (Wilsch 2012) – as the DaBaG consists of legally binding database entries – but also to the data exchange between cadastre and land registry. The DaBaG is expected to be launched in 2022.

The “Reichskataster” set standards into a multi-purpose-cadastre. Up to now “Bodenschätzung” and “Tatsächliche Nutzung” as a mix of land cover and land use are part of the cadastre in all German Länder. Depending on the Länder, public law restrictions are, to varying degrees, as well provided in the cadastre.

The “First generation automated real estate cadaster” as it is described by Ehrmanntraut and Nerkamp (2012)

and Steudle et al. (2015) was in use from about 1980 to 2015.

At the end of 2015, the “Amtliches Liegenschaftskataster Informationssystem”, ALKIS®, was established as a new cadastre standard throughout Germany (AdV 2019). The core data sets of ALKIS® are cadastral parcels, buildings, owner information, public-law restrictions, “Bodenschätzung”, and “Tatsächliche Nutzung” as shown in Fig. 3. As geospatial reference data ALKIS® serves as a multi-purpose-cadastre and is a backbone of the geospatial data infrastructure.

4 Legal aspects

The ownership of the land is documented in the land register and cadastre. The use of the cadastre as a geometrical-legal reference system interlinks the land register and cadastre. The German property protection system can be regarded as a special type of “registration of title” in which the two proofs, land register and cadastre, are very closely linked (Rembold 2012). The cadastre is the official register, “Amtliches Verzeichnis”, according to Article 2 (2) GBO.

“If a landownership right is registered in the land registry, the owner is presumed to be entitled to the right. If a registered right is deleted from the land register, it is presumed that the right does not exist”, Article 891 BGB. Consequently land register and thus cadastre are considered to be correct until the opposite is proven. Article 892 BGB provides land registry with public faith. The bona fide acquirer is under special protection.

In order to acquire right to land, a notarized contract, a notarized conveyance and entry in the land register are mandatory. There are only few legally permitted exceptions from this rule:

- Inheritance law with subsequent correction of the land register according to Article 35 GBO;
- Legally regulated land readjustment according to Article 45 to Article 84 Baugesetzbuch (BauGB 2017) or Flurbereinigungsgesetz (FlurbG 1976);
- Expropriation according to Article 85 to Article 92 Baugesetzbuch (BauGB 2017);
- Compulsory auction before the local court;
- Acquisitive prescription after 30 years according either to Article 900 or Article 927 BGB is proved in a complex procedure before the local court;
- Abandonment of ownership and appropriation by the tax authorities according to Article 928 BGB;
- Correction of an incorrect statement by another proof of inaccuracy according to Article 22 GBO.

Combined with the public faith of the land register, these strict rules lead to a very high level of legal certainty. Wilsch (2012) gives a detailed view into the German land register.

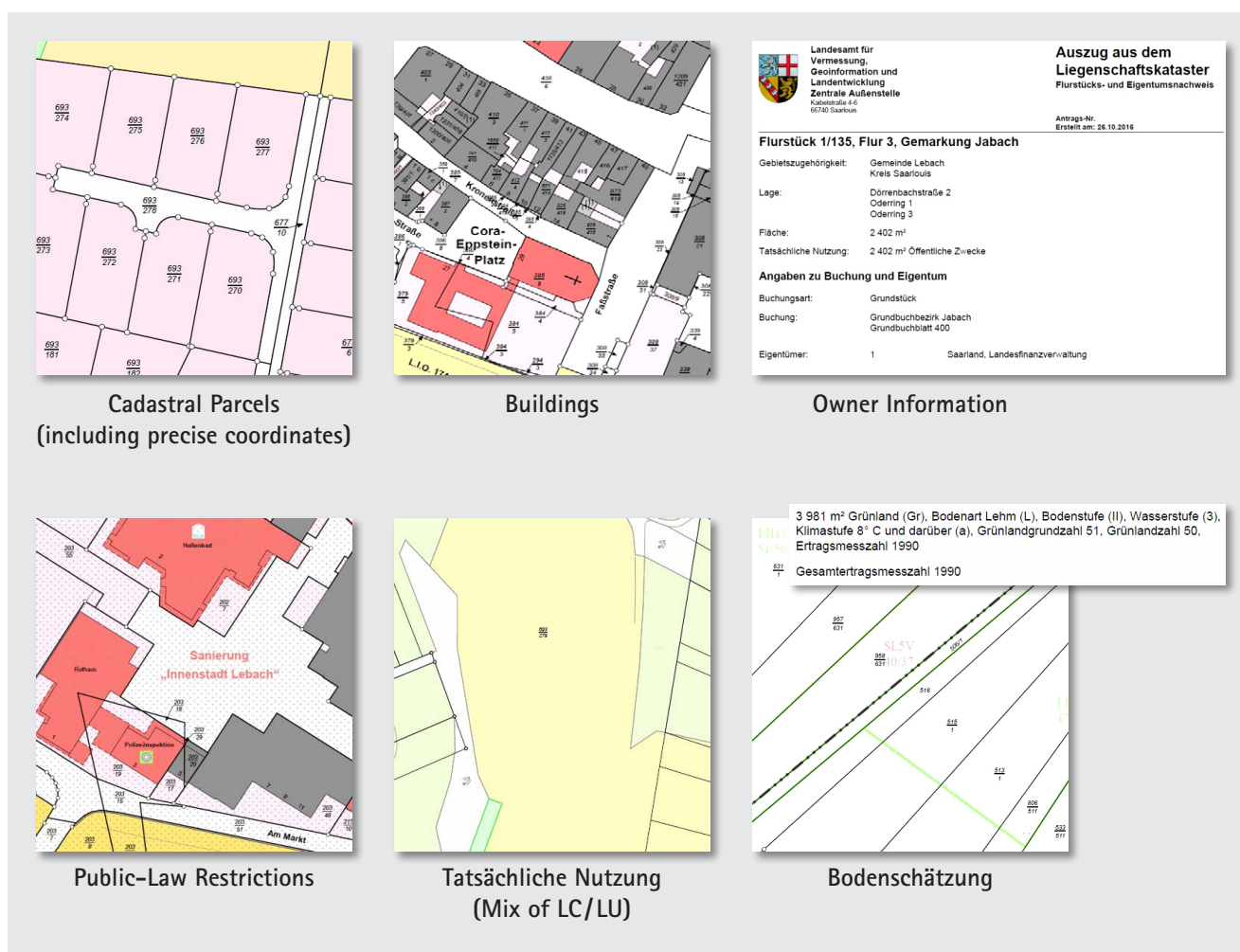


Fig. 3: ALKIS core data based on Steudle, ALKIS – Zukunft gestalten, Nutzer erreichen, INTERGEO 2016

5 Technical aspects

A legally secure boundary determination requires a reliable cadastre. Some Länder have defined a coordinate-cadastre with highly precise and reliable legally binding coordinates of the boundary line. According to the definition of the AdV (2002), the coordinate-cadastre is to be understood as a special form of defining boundaries, in which point coordinates are determined with high reliability for all boundary points. The standard deviation of these coordinates in general is better than 3 cm. As of November 2018 the expansion of the coordinate-cadastre in these Länder ranges from about 2 % in Saarland to 92 % in Hamburg.

Coordinates are not legally binding in the coordinated cadastre or “classical” cadastre. The border has to be determined according to the neighbourhood principle using the documentation of the measurements. Cadastre is legally binding in case of so called “einwandfreie Vermessung” or “einwandfreier Katasternachweis”. This means survey and border points have been clearly determined and thoroughly checked, the parcel boundaries have been legally established and the surveys have been transferred to the real estate cadastre (VV-LiegVerm 2017). From be-

ginning of the 20th century property surveying in general may be considered as “einwandfrei”.

In case of ambiguity and border confusion without agreement of the parties involved, a decision of the local court on the border line is necessary. It is not the task of the cadastral administration to clarify civil law property issues and to change parcel boundaries with civil law effect (Kriesten 2017).

Point coordinates are not necessarily equivalent to the graphical coordinates of the cadastral map, even if both are part of ALKIS®. In the 1990s when the digitization process of the cadastral map began there had been different manifestations in different scales of the analogue cadastral map. E.g. there has been the frame-based cadastral map scaled 1:1000, “Rahmenkarte”, and, following the scale and area coverage of the historic Prussian “Urkarte”, the so called “Inselkarte”, scaled 1:1175, 1:1250 or less in the former Prussian part of Germany. From this circumstance and from different digitizing methods results an accuracy between 30 cm and 1 m for the digitized cadastral map in general.

It is the aim of the German cadastral agencies to improve the geometric accuracy of the cadastral map through homogenization. The map is moved to the

coordinates from point register maintaining the geometric relations (Rembold 2017).

6 Conclusion

Cadastre in Germany lies decentrally within the responsibility of the Länder. Despite there is no uniform cadastre in formal terms, it has developed into a precise and highly reliable part of the German property protection system. It serves as a multi-purpose-cadastre and is a backbone of the German geospatial data infrastructure.

References

- AdV – Arbeitsgemeinschaft der Vermessungsverwaltungen der Länder der Bundesrepublik Deutschland (2019): Amtliches Liegenschaftskataster Informationssystem (ALKIS®). www.adv-online.de/AAA-Modell/ALKIS/, letzter Zugriff 17.04.2019.
- AdV – Arbeitsgemeinschaft der Vermessungsverwaltungen der Länder der Bundesrepublik Deutschland (2002): Profil eines zukunftsorientierten Liegenschaftskatasters. www.adv-online.de/AdV-Produkte/Liegenschaftskataster/Download/, letzter Zugriff 17.04.2019.
- Bauer, R., Püschel, R., Wiedenroth, W., Zurhorst, M. (2010): Liegenschaftskataster und Liegenschaftsvermessung. In: Kummer, K., Frankenberger, J. (Hrsg.): Das deutsche Vermessungs- und Geoinformationswesen 2010. Wichmann, Heidelberg, S. 311–378.
- BauGB – Baugesetzbuch i.d.F. der Neubekanntmachung vom 3. November 2017 (BGBl. I S. 3634).
- BoSoG – Gesetz über die Sonderung unvermessener und überbauter Grundstücke nach der Karte (Bodensonderungsgesetz) vom 20. Dezember 1993 (BGBl. I S. 2182, 2215), zuletzt geändert durch Art. 186 der Verordnung vom 31. August 2015 (BGBl. I S. 1474).
- Ehrmanntraut, E., Nerkamp, K.-H. (2012): Konzeption und Nutzung des automatisiert geführten Liegenschaftskatasters. In: Kummer, K., Frankenberger, J. (Hrsg.): Das deutsche Vermessungs- und Geoinformationswesen 2012. Wichmann, Berlin, S. 137–164.
- FlurbG – Flurbereinigungsgesetz i.d.F. der Bekanntmachung vom 16. März 1976 (BGBl. I S. 546), zuletzt geändert durch Art. 17 des Gesetzes vom 19. Dezember 2008 (BGBl. I S. 2794).
- Freese, A. (2009): Repertorien des hessischen Hauptstaatsarchivs, Abt. 541. Prüfungsarbeit der Inspektoranwärterin A. Freese, Hessisches Landesvermessungsamt, Wiesbaden, unveröffentlicht.
- Gesetz über die Neuordnung des Vermessungswesens vom 3. Juli 1934 (RGBl. I S. 534).
- Gesetz über die Schätzung des Kulturbodens vom 16. Oktober 1934 (RGBl. I S. 1050).
- Krause, F. (2008): Untersuchung der Auswirkungen von festgestellten Widersprüchen zwischen den Nachweisen der ALK und des ALB am Beispiel der Gemarkung Nossentiner Hütte. Diplomarbeit zur ALKIS®-Vormigration an der Hochschule Neubrandenburg – University of Applied Sciences.
- Kriesten, M. (2017): Vermessungsrecht, Grenzstreitigkeiten und Recht der öffentlich bestellten Vermessungsingenieure. Richard Boorberg, Stuttgart.
- Lucht, H. (2010): Vor 20 Jahren – Aus der Arbeit im Deutschen Städtetag nach der politischen Wende. In: zfv – Zeitschrift für Geodäsie, Geoinformation und Landmanagement, Heft 3/2010, 135. Jg., S. 143–151.
- Rembold, M. (2017): “Hauptsache, dass es fertig werde” – Zur Erneuerung des Liegenschaftskatasters. In: NÖV – Nachrichten aus dem öffentlichen Vermessungswesen Nordrhein-Westfalen, Ausgabe 1/2017, S. 26–45.
- Rembold, M. (2012): Die Anerkennung und Feststellung von Grundstücksgrenzen – Ein Beitrag zur Entwicklung des Liegenschaftskatasters im Lande Nordrhein-Westfalen in Vergangenheit, Gegenwart und Zukunft. Dissertation. Schriftenreihe des Instituts für Geodäsie und Geoinformation der Rheinischen Friedrichs-Wilhelm-Universität Bonn, Heft 27.
- Reichsgericht (1910): Urteil vom 12.02.1910, Az.: Rep. V. 72/09. In: Entscheidungen des Reichsgerichts in Zivilsachen (RGZ), Band 73, S. 125–131.
- Seeberger, M. (2001): Wie Bayern vermessen wurde. Hefte zur Bayerischen Geschichte und Kultur, Sonderheft 26/01, Haus der Bayerischen Geschichte, Augsburg.
- Stein, W.H. (2005): Die Geschichte des rheinland-pfälzischen Liegenschaftskatasters. In: Nachrichtenblatt der Vermessungs- und Katasterverwaltung Rheinland-Pfalz, Heft 3/2005, 48. Jg., S. 160–175.
- Steudle, G., Ehrmanntraut, E., Zurhorst, M. (2015): Liegenschaftskataster und Liegenschaftsvermessung. In: Kummer, K., Kötter, T., Eichhorn, A. (Hrsg.): Das deutsche Vermessungs- und Geoinformationswesen 2015. Wichmann, Berlin, S. 433–519.
- VV-LiegVerm – Verwaltungsvorschrift für die Durchführung von Liegenschaftsvermessungen im Saarland. Verwaltungsvorschrift des Ministeriums für Umwelt und Verbraucherschutz vom 1. Juli 2017.
- Wilsch, H. (2012): The German “Grundbuchordnung”: History, Principles and Future about Land Registry in Germany. In: zfv – Zeitschrift für Geodäsie, Geoinformation und Landmanagement, Heft 4/2012, 137. Jg., S. 224–233.
- Zeddies, W. (2008): The cadastral system in Germany. In: Overview on the cadastral systems of the E.U. member states. Permanent Committee on Cadastre in the European Union, Edition 2008, Agenzia del Territorio, Rome, p. 109.

Contact

Dipl.-Ing. Björn Degel
Landesamt für Vermessung, Geoinformation und Landentwicklung
Von der Heydt 22, 66115 Saarbrücken, Germany
b.degel@lvgl.saarland.de

This article also is digitally available under www.geodaesie.info.