

LEGAL ISSUES ARISING FROM TECHNOLOGICAL DEVELOPMENTS - IN PARTICULAR, DIGITALISATION IN SPORT

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Abstract: *During the past couple of decades, dynamic technological developments concerning sports in their many forms have been evident. These developments have, in part, led to dramatic changes. High-tech materials have caused developments in respect of sports grounds, facilities and equipment that are almost revolutionary. Key factors giving rise to these technological developments are digitalization, microelectronic devices and wireless communication.*

The examples of changes to sports following these technological developments are numerous; so, too, are the legal questions they have given rise to. As usual, the latter have arisen some time after the technological developments themselves ('legal lag').

The article aims to provide an overview of the issues arising in respect of data protection in sports. Four categories of 'sports data' are identified in the article. The questions relating to ownership and usage requirements demonstrate the significant challenges for sports organisations in complying with these requirements.

Key words: sports data, digitalisation, data protection

I. Introduction

The technological developments that we have been able to observe in recent decades have also affected sport in all its diversity – and, in some cases, changed it dramatically.

High-tech materials have in many ways revolutionized sports facilities, sports equipment and sporting goods. Digitalisation, together with microelectronics and wireless communication, is a key factor that has given rise to technological development.

The examples of the changes to sport caused by technological developments are legion. They range from electronic timekeeping to wearables, and social media to media event presentation. Training science and sports medicine have also made immense progress through technological development. This – sometimes disruptive – development is made financially possible by new business models, which act as catalysts.

After a short description of the technological developments that have occurred over the past years, in particular digital transformation, as it is called, and

* With thanks to Leon Kühnlein and Mairead Boland for the translation.

its practical effects on sport (see II.), I will deal with some legal questions, which – as always – have not arisen concurrently with the developments ('legal lag')¹. A central question is: who owns the data generated by digitalisation in sport ('sport data') and who may dispose of it under what conditions (see III.). The regulations imposed by national and international sports associations, as well as the various contractual agreements between those involved in sport, must take these legal developments into account. In this respect, I will consider in particular data protection law and copyright law.

II. Technical Developments due to Digitalisation in Sport

1. Digitalisation as a Core Element of Technological Development

The use of technical aids in the assessment of sporting performance is nothing new. The stopwatch, tape measure and finish photo have been in use for decades. Digitalization has, however, opened up new possibilities, which are, at times, disruptive. The German Olympic Sports Federation (DOSB)² uses digitalization as an umbrella term for new communication technologies; complex online portals; faster data collection and exchange; the development of self-controlling algorithms; improved sensor technology; and the replacement of physical work by robots. Thus, the DOSB has a broad understanding of digital transformation, which includes three core elements³:

– Digitalisation (in the narrower sense) actually only refers to the uniform representation of information (speech, text, graphics, images, video, music, files) by the binary numbers 0 and 1 with positive effects for signal processing, lossless copying and transmission, as well as other processing options and encryption.⁴

– The leap in development caused by microelectronics becomes clear when one compares a normal smartphone with the computer capacity that was available during the moon landings of the Apollo programme 50 years ago. Mobile phones are many times more powerful today than the moon landing computers.. Modern processors consist of 500 million transistors with up to ten layers wired on top of each other. Semiconductor memories of up to 200 GB are available.⁵

1. Klaus Vieweg, Reaktionen des Rechts auf Entwicklungen der Technik, in: Martin Schulte (ed.), Technische Innovation und Recht – Antrieb oder Hemmnis?, Heidelberg 1997, pp. 35–54.

2. DOSB-Mitteilungen no. 24/2017 of 13.6.2017, p. 32.

3. For more detail, see Heinz Gerhäuser, Digitale Daten in Geräten und Systemen – Entwicklung und Perspektiven, in: Klaus Vieweg/ Heinz Gerhäuser (eds.), Digitale Daten in Geräten und Systemen, Köln 2010, p. 1(3 et seqq.).

4. Heinz Gerhäuser (Fn. 3), p.4 et seq.

5. Heinz Gerhäuser (Fn. 3), pp.5 et seqq.

– Wireless communication systems have seen a leap in transmission rates. 5G will give a further boost to development compared to UMTS.⁶

2. Examples of Use and Systematisation of ‘Sports Data’

The use of digitisation in sport entails the collection of a wide range of data (‘sports data’). Even if the data being collected are not always new innovations (e.g. lists of members and participants), digitisation opens up possibilities of use that were previously not available (e.g. on the internet), which lead to interesting topical legal issues. It is proposed that ‘sports data’ be categorised under four headings in order to inform subsequent consideration of the legal issues arising.

a) Organisational Data

Organisational data includes the personal data of the members (name, date of birth, address, gender, type of sport / department in multi-line clubs, weapons in shooting clubs, status: active / inactive). Functionaries’ data (e.g. those data relating to the executive committee as defined by the BGB) form a further sub-category for the register of associations.

b) Competition Results

Competition results include participants’ data (name, age group, team membership, placement) as well as their results, categorised according to time, height, distance, points achieved, goal scores, etc.

c) Movement and Health Data in Competition and Training

In popular sports, wearables that register a number of different values are common. These values include location, number of steps, heart and respiratory rate, and, if necessary, forward these values e.g. to a central location. One example of this is the fitness shirt from the Fraunhofer Institute for Integrated Circuits. The shirt includes a textile-integrated sensor system that records heart and respiratory rate as well as activity (including any falls) and transmits them wirelessly with Bluetooth or Bluetooth Low Energy to a mobile device (e.g. smartphone).⁷

In high-performance sport, data is generated, used and disseminated in a variety of ways, both in competition and in training. In ski jumping, for example, a 30.7 g chip shows the speed, flight altitude in each phase of the flight, the angle of the V-position and the upstand of the skis.⁸ In football, a chip sensor

6. Heinz Gerhäuser (Fn. 3), pp.12 et seqq.

7. Alfred Heuberger, Wearables, in: Klaus Vieweg (ed.), Festgabe Institut für Recht und Technik, Köln 2017, pp. 397 (401 et seq.).

8. Frankfurter Allgemeine Zeitung of 28.12.2017, p. 28.

system from Kinexon and SAP is used to display position data, speed and load control.⁹

d) Moving Images on Television and the Internet

Both television and the internet act as drivers of technological development. The following developments¹⁰ deserve highlighting:

- a wide range of camera applications, sometimes assisted by drones;
- the calibration of lines (e.g. offside lines in football);
- the insertion of electronic time measurement / width measurement;
- the transmission / distribution of digital signals;
- the explosive increase in the number of terminals and applications, for example..

III. Rights to ‘Sports Data’

Data have increasingly become monetised in the digital age. They are the basis of many business models. This is increasingly true in the sporting arena and raises the questions ‘Who owns data?’ and ‘Who may use it on what basis?’

Legal classification is not always easy. It depends on the way the data is collected. Essentially, three approaches can be considered, which are linked to the following legal positions:

- the general right of personality, in particular the right of athletes to data protection (informational self-determination),
- the copyright of organisers, producers and database producers, and
- the determination of ownership under property law.

Cumulative assignments can occur, especially when technical devices are used to generate data. For the four categories of sports data differentiated above, initial considerations lead to the following results:

1. Organisational Data

Organisational data is primarily data with an individual’s personal references. Its use by a club or association – e.g. for membership fees – is covered by the organisational purpose of the membership relationship. It is unproblematic to transfer such data to the state professional association, state sports association and insurance companies, as allocation of the data to particular individuals is no

9. Axel Höpner, Handelsblatt of 8.10.2018.

10. Cf. Klaus Vieweg, Die Auswertung von Fahrzeugdaten bei der Unfallanalyse – Rechtliche Grundlagen und Grenzen, in: Deutsche Akademie für Verkehrswissenschaft e. V. (ed.), 45. Deutscher Verkehrsgerichtstag 2007, Hamburg 2007, pp. 292–307; Ansgar Ohly, Digitale Datenbanken aus immaterialgüter- und persönlichkeitsrechtlicher Sicht, in: Klaus Vieweg/Heinz Gerhäuser (eds.), Digitale Daten in Geräten und Systemen, Köln 2010, pp. 123 et seqq.

longer possible. It is a different matter when it comes to transfers of such data to the competent weapons authority (e.g. when a member resigns in accordance with § 15 para.5 WaffnG¹¹), to other clubs (e.g. mailing list) or to sponsors. The disclosure of personal data requires individual consent or a legal requirement, as defined in § 15 para. 5 WaffnG.

2. Competition Results

Competition results are the central type of sports data. They are generated by the individual performance of athletes. They have a personal reference. There are occasional discussions as to whether sporting performance should be capable of being copyrighted.¹² In any case, the sports organiser, who provides the sports facility, measuring equipment, organisation, personnel and information technology, also contributes to the determination of the competition results, both with regard to an athlete's individual performance and for the compilation of result lists, from which results, for example, the placement of the individual athlete. The assumption of co-ownership by the athlete and the organiser is therefore obvious. This has consequences for the data's use, in particular the publication by notice, press release and internet presentation.

Special features exist in respect of the publication of the results of doping tests. The data obtained are health-related and are therefore subject to stricter protection requirements.

The result data of disabled athletes will always contain information about the disability and therefore attract a particularly high level of protection.

3. Movement and Health Data

Movement and health data are generated by the fact that an athlete carries measuring instruments on his or her body which record his or her movement behaviour and measure certain body parameters. In this respect, acknowledging the different types and quality of wearable devices that are used, a distinction should be made between popular and high-performance sports.

a) Popular and Leisure Sporting Activities

Wearables, as they are known, are very common in popular and leisure sports. The data obtained are individually personal. For example, they are sent via an

11. § 15 para. 6 WaffnG: The shooting club is obliged to inform the competent authority immediately of any sports shooters who are in possession of a weapon possession card and who have left their club.

12. Carsten Morgenroth, Interesse als Einfluss- und Entscheidungsfaktor im Sportrecht am Beispiel des Sportsponsoring, in: Klaus Vieweg (ed.), Akzente des Sportrechts, Berlin 2012, p. 287 (300).

app to the athlete's own smartphone. They are legally assigned to the athlete. It is up to athlete whether he or she makes them available to others (friends, colleagues, doctors, health insurance companies ...).

If app developers or manufacturers of wearables or smartphones reserve access, the question arises as to whether the requirements of 'privacy by design' are met.

b) High-performance Sport

The data obtained in high-performance sport are, on the one hand, competition data and, on the other, training data. These data are generated by the athlete's body (movement, body functions such as heart rate, blood pressure, and so on) and by the measuring devices used are usually provided by the organiser of the competition or training session (club, association, competition organiser during official training). Therefore it is clear that co-ownership may be assumed.

These data are particularly valuable and especially of interest to third parties (coaching staff, competitors, e-game manufacturers, media, negotiating partners when changing clubs and such like).

4. Moving Images on Television and the Internet

Moving images produced for television or the internet are also data. The legal classification of such images is virtually a 'classic' case in sports law. The organiser¹³ has the right to produce moving images.¹⁴ The position of athletes is defined by the Copyright Act. The decisive factor is whether the athlete is a "person of contemporary history" within the meaning of § 23 of the Copyright Act (KUG). The right to broadcast or publish short reports, the moving image right under § 19 Abs. 4 Copyright Act (UrhG) and the discussion in respect of the creation of a special ancillary copyright for sports organisers¹⁵ should be mentioned in this context. Here, too, it is evident that co-ownership by the organiser and producer of the broadcast signal may be assumed.

IV. Consequences for the Regulations and Contracts of Clubs and Associations

The issue of data protection and data security has emerged as central in relation to all four cases – although with different weighting in each case. The issue does not exist solely in relation to the general data protection regulation (DS-

13. Cf. definition of organiser – Reto M. Hilty / Frauke Henning-Bodewig, Leistungsschutzrechte zugunsten von Sportveranstaltern? Rechtsgutachten, Stuttgart 2007, p. 54.

14. BVerfG, 1 BvF 1/91 of 11.11.1997, OLG Hamburg NJW-RR 2003, 1485 et seqq.

15. Reto M. Hilty / Frauke Henning-Bodewig (Fn. 13), pp. 67 et seqq.

GVO), which came into force EU-wide in May 2018. However, this regulation has made the issue more widely known - not least because of the considerable threat of fines being levied in the event of infringement of the regulation. Data protection and data security have become compliance issues for clubs and associations. If, based on the mutual obligation of the associations and clubs on the one hand, and their members on the other, a regulatory obligation of the clubs and associations¹⁶ is found to exist, the clubs and associations face a considerable burden. A three-stage procedure is recommended:

– First, all collected and processed data that are personal or which may be related to an individual should be recorded according to their type and collated in a checklist. If databases within the meaning of § 87 a UrhG are available, the data must also be recorded with their related database.

– Second, the requirements of the DS-GVO and the Federal Data Protection Act (BDSG) must be met. These include, in particular, the requirements of self-determination, transparency, purpose limitation, data minimisation, accuracy, storage limitation, as well as integrity and confidentiality. The recommendations of the DOSB¹⁷ and the data protection authorities can provide valuable support in this regard.

– Finally, the need to take action – and any possible deficits – are to be determined by comparing the collated data with the legal requirements. In doing so, both approaches - standards and contracts – for creating legal obligations for members must be considered. Special care must be taken if, for example, personal data are passed on to advertising partners and sponsors for commercial reasons, or if data are posted on the internet for retrieval in the absence of a particular purpose, or without requiring consent from members. As is generally the case in association law, the socio-economic balance of power plays a decisive role in monitoring the content of standards and contracts, as well as in assessing antitrust law.

V. Summary and Future Perspective

Technological developments, particularly digital transformation, has affected sport. A plethora of new personal data leads to the questions: ‘who ‘owns’ these data?’, and ‘who may dispose of them under what conditions?’ Four categories of sports data – organisational data, competition data, movement and health data, movement data for television and the internet – must be distinguished from each

16. Klaus Vieweg, *Normsetzung und -anwendung deutscher und internationaler Verbände*, Berlin 1990, pp. 244 et seqq.

17. https://ehrenamt.dosb.de/news/details/news/datenschutz-handlungsempfehlungen-fuer-ver-eine-und-verbaende/?tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail&cHash=bde50ead2e0c8a1b288728795d2b412f (accessed on 19.2.2020)

other and legally assigned. Clubs and associations are faced with compliance requirements that are not easy to determine from the point of view of data protection and data security.

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