Ministry of Foreign Affairs

Commercial Potential of Digitalization in the German Sports Business

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Nielsen

Kingdom of the Netherlands

Commercial Potential of Digitalization in the German Sports Business

Landscape Analysis

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Landscape Analysis:
Commercial Potential of Digitalization in the German Sports Business

1. Introduction

1.1. Study Background and Objectives

The Netherlands has become one of the most digitally advanced European countries, and one of the leading idea hubs for the digital economy of the continent: In 2022, the country ranked 3rd in the 2022 Digital Economy and Society Index[1] and 4th in the European Innovation Scoreboard.[2] Consequently, the country's thriving startup ecosystem and supportive government policies have established Dutch technology companies as leaders in innovation.

As part of the industry's internationalization strategy, the Dutch Rijkdienst voor Ondernemend Nederland (RVO) and the Netherlands Business Support Office (NBSO) in Hamburg have identified Germany to be a relevant target market for digital products and services, particularly in the field of sports. To assist Dutch technology companies in their expansion efforts, RVO and NBSO have commissioned global research and consulting firm Nielsen Sports to conduct a comprehensive market study to evaluate the market potential focusing on the commercial side of the business including these topics:

- Immersive technologies (augmented and virtual reality)
- Enhancement of fan and live experiences
- Content creation & media distribution
- App development
- Digital transformation support

In this study, Nielsen Sports provides a comprehensive analysis of the current state of digitalization in Germany, and a detailed examination of the German sports market, including landscape analysis and segmentation. Additionally, the study will delve into the digitalization challenges and needs of major players in the industry and shed light on current and future trends. Therefore, it will also include case studies of recent collaborations between German sports organizations and technology service providers. The report will conclude with recommendations for developing a successful go-to-market strategy for Dutch technology companies looking to expand into the German market.

[1] The European Commission (2022). Digital Economy and Society Index (DESI) 2022. Retrieved from: https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022

[2] The European Commission (2022). European Innovation Scoreboard 2022. Retrieved from: https://research-and-innovation.ec.europa.eu/knowledge-publications-tools-and-data/publications/all-publications/european-innovation-scoreboard-2022_en

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1.2. Methodology and Approach

This market landscape analysis was based on two pillars: expert interviews to gather qualitative insights and implicit information, and thorough desk research to validate, support, and reinforce the interview findings.

As part of the primary research, more than 20 interviews were conducted with key stakeholders within the German sports industry to gather a comprehensive perspective of the market. These interviews included digital experts from professional sports teams, federations, leagues, events, sports media companies, and marketing agencies, who were asked to share their insights on the current state of digitalization within their organizations, market trends and developments, and requirements and selection criteria to be considered by digital service providers. Additionally, representatives from German technology companies with a presence in sports, sponsors, specialized consulting firms, and universities provided a broader overview of technology trends, developments, and the competitive landscape.

In-depth analysis of secondary sources, such as third-party reports and studies, press articles, and opinion pieces, was also conducted to provide relevant context about the status of digitalization and individual technologies in Germany, and to shed light on the segmentation and size of the domestic sports market. These research results were used to fill in data gaps and to validate and contextualize all statements extracted from the expert interviews.

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2. Management Summary & Recommendations

2.1. Management Summary

Given the country's economic power, the size of the domestic sports market and its geographical proximity to the Netherlands, Germany seems to offer great potential for Dutch technology companies to expand their business. However, entering the market will not be easy, as there are several challenges that make it essential to develop a specific go-to-market strategy to be successful.

Digitalization is becoming increasingly important in the sports industry, yet many organizations are struggling to fully embrace and effectively leverage this trend. **This can be attributed to the absence of a long-term business strategy and a short-term focus on sporting success at the management level.** As a result, digitalization is often overlooked along with other critical issues like sustainability. Despite its importance, many stakeholders in the sports industry have yet to recognize the value of digitalization, leading to low prioritization and limited resource allocation. Consequently, **most rights holder organizations do not have a specific digital strategy**.

German sport organizations are financially constrained and have a seasonal focus on sporting success. As a result, they expect a clear and tangible return on investment when considering digital solutions. Dutch tech companies need to keep in mind that most sports organizations are medium-sized companies for annual turnover and employees. In conclusion, the lack of investment in digital by sports clubs can be attributed to their perception that it is not a critical part of their core business, which is focused on sporting success and investment in teams, athletes and sports facilities.

Organizational structures are outdated, and the available in-house expertise is currently not meeting the requirements of a successful digital transformation. Despite recognizing the potential value of digitalization, many sports organizations have not fully embraced its importance or allocated the necessary resources to implement it effectively. This is often due to a lack of understanding of the opportunities and benefits of digitalization and a misplaced prioritization of resources, as described above. In addition, many sports organizations have structures that have grown over time, making them less agile and open to change, further increasing this resource challenge. As a result, the necessary structures and expertise are often not in place to effectively implement digital initiatives, and positions requiring specialized digital expertise may be left unfilled, resulting in a lack of internal knowledge and expertise.

Furthermore, the lack of (IT) project management and dedicated digital departments and employees in German sport organizations represents another key challenge. Sports organizations are structured in such a way that either each department works on digital issues independently in silos, or there is someone who has made it an overarching goal but does so in addition to his or her main duties (e.g., head of marketing). The decentralized digital organization of many sports companies can make it difficult to access the right contacts. In addition, depending on the size of the investment, decision-making power is not always in the hands of those who understand the need for digital transformation. Furthermore, there is often a lack of dedicated digital budgets and internal digital capabilities.

Most stakeholders in the German sports business can be classified as "late majority" and "laggards" on the technology adoption curve. This can be seen when looking at use cases in the sports industry and how the continuation and evolution of these use cases is not understood and often remains a one-time occurrence. Showcases with advanced technologies like augmented reality, virtual reality or 5G are often more important than long-term success and further development of those cases. They rather serve individual stakeholders in the business to showcase short-term achievements and their willingness to be innovative instead of creating mid-term to long-term value and new revenue streams. Overall, the German sports organizations are not very risk tolerant. They tend to have a wait-and-see attitude and are reluctant to try new things.

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They prefer to watch and imitate their peers before taking the risk of failure. Consequently, most stakeholders in the German sports industry can be classified as "late majority" and "laggards" on the technology adoption curve. This often results in sports organizations still in the mandatory basics of digital transformation, which means that they need to break down data silos, harmonize data sources, and create holistic digital systems, such as CRM systems before starting to invest in advanced technologies.

Another problem faced by sports organizations in the German market is the tendency to overestimate the expectations towards potential business partners. It often manifests itself in the form of offering barter deals, including brand visibility on advertising boards for the business partner, instead of investing money in digitalization projects. This expectation is a result of the past, when fans, sponsors, etc. were beating down the doors of sports organizations. As a result, they were in a very comfortable position and always grew economically without having to think too much about it. At the same time, external organizations were eager to promote themselves through high-profile cases in sports and thus were open to bartering. These two points together have created an expectation and culture that is now difficult to shake and that makes sports organizations reluctant and simply unaccustomed to paying in full for services. Therefore, Dutch tech companies should be aware that sport organizations often expect them to invest in the first place instead of paying them. Obviously and depending on the goals of the Dutch tech company, a barter deal can be of interest and therefore beneficial. For example, to reach a wider audience and become better known in the market by accepting a barter deal and generate exposure in Germany for the company or brand.

Why does the German sports market still offer great potential for Dutch tech companies?

German sports organizations have partially recognized the need to invest in digitalization, while realizing that the current level of digitalization is relatively low. Despite increasing pressure to drive digital transformation, many organizations in the sports industry have been slow to adopt digital technologies. While the average fan today is still hesitant and reserved in their digital expectations, this existing digital lag can be a significant obstacle to the ability of sports organizations to compete and survive in the medium and long term. Sports organizations that do not digitize their complex analog offerings will not be able to compete with other more personalized and convenient experience/entertainment providers, as well as the growing number of other activities in fans daily lives in general, as the attention spans of younger and future fans become shorter and digital content and services become more accessible and interactive. It is therefore essential for sports organizations to address this issue and lay the necessary digital foundations to enable them to compete and thrive in the digital age. This includes the need for the German sports business to invest in digital infrastructure, know-how, services and products, and other key areas critical to success in the digital landscape. These findings provide an opportunity for Dutch technology companies to step in and offer their digital products and services to the German market.

German sports organizations need to understand their fans - digitalization can be the key to overcoming the challenges faced in monetizing their fans and other customers. In part, this is due to the existence of data silos that make it difficult for organizations to gain a comprehensive understanding of their fans and customers. The need to understand and monetize fans comes with the challenge of breaking down these existing data silos and collecting, harmonizing, and analyzing the mass of multiple data streams and points in a centralized manner. This requires investment in holistic digital systems. These systems can then help German sports organizations to understand their fans. This includes the average fan, the young, digital-savvy targets of the future as they move up the customer chain, and especially the hardcore fans. This demographic is increasingly driving demand for digital solutions and experiences, and sports organizations must be able to respond to this trend to remain relevant and competitive. This is further underscored by the broader social digital trends currently shaping the industry. The widespread adoption of digital technologies across all sectors of society is driving a fundamental shift in how people consume and engage with content, including sports.

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As a result, sports organizations must be able to adapt to these changes to continue to connect with their audiences and drive growth.

At the same time, rights holders are facing immense criticism of commercialization from hardcore fans. Dutch tech companies that understand not only the sports organizations, but also the end consumer - the fans - and offer tailored solutions that include the digitally savvy younger generations, without overdoing it with the hardcore fans, have a chance to create business models around the fans, such as fan services in and around stadium the but also extend the fan journey beyond the matchday experience.

Additionally, stagnating and sometimes declining traditional revenue sources and the need for new revenue streams also contribute to the need for digitalization. Existing revenue sources in the sports industry offer limited potential for further growth. For example, clubs have largely sold out their seating capacities, media revenues are often not in the hands of the clubs themselves, and merchandising generally offers little potential for growth since it represents only a small share of the overall revenue. Given these constraints, it is critical for clubs to identify new revenue streams such as building digital ecosystems based on fan data, and better leverage existing ones from other teams, such as women's and e-sports teams, as well as traditional ones, such as hospitality, ticketing and merchandising. Digital transformation can be a way forward for clubs to achieve this, offering new opportunities for revenue generation and improved efficiency.

Positive examples and drivers in the German sports industry and in other markets and economies show the potential of digitalization and the direction it can take. Within the industry itself, for example, the Deutsche Fußball Liga (DFL) has set itself the goal of becoming the "world's most digital league". This ambitious vision highlights the potential for digitalization to drive growth and success in the sports industry. At the same time, society and in return the DFL drives the expectations towards right holders in terms of sustainability. The Bundesliga and Bundesliga 2 football leagues have set a precedent in the world of professional sports by becoming the first major leagues to include a mandatory sustainability policy in their licensing regulations. Going forward, clubs will be held accountable for demonstrating a comprehensive sustainability and environmental strategy, including annual assessments of key metrics such as water usage, wastewater production, energy consumption, and transportation impacts. To effectively address these challenges, a strong emphasis on digitalization will be critical. One specific example of a successful digitalization project in German sports is EintrachtTech, the digital subsidiary of Eintracht Frankfurt. It serves as a shining example of how digitalization can be used to drive innovation and success in the sports industry. Furthermore, looking externally, the US sports industry provides additional insights into the opportunities and challenges of digitalization in sports. German sports organizations often cite the digitalization of US sports as a role model and would like to emulate it in terms of digitalization. While it must be acknowledged that the conditions in the US are different from those in Germany, the US sports industry is well advanced in terms of digitalization and clearly shows the potential of digital solutions. Finally, it is worth noting that digitalization is already more advanced in other sectors of the global economy, including the German economy, such as e-commerce, retail and finance, and digital solutions can also bring many benefits to the sports industry as well. Therefore, Dutch tech companies should approach those organizations that are early adopters, and digitally affine organizations in the German sports industry like the DFB, HBL, Alba Berlin, Eintracht Tech / Eintracht Frankfurt, or Hertha BSC to get a foothold in the industry and from there grow with them and multiply their digital solutions to other sports organizations. In addition, in the near future, trends such as e-sports, fan experience solutions, new investor and financing concepts, building digital ecosystems, innovation management and long-term sustainable thinking (ESG) as the top trends in the German sports market can be interesting topics for Dutch tech companies to connect with their solutions.

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Networking within the sports business can quickly lead to multiplier effects. Clubs and organizations within the sports industry have a strong inclination to inquire with colleagues in the sports business regarding new technologies and best practices. Based on this insight, we recommend that technology companies actively build a network within the German sports business. This can be achieved through targeted networking and collaboration efforts, such as attending industry events, establishing partnerships with sports clubs and organizations, and providing educational resources and support to help sports organizations navigate the digital landscape.

By building a network within the German sports business, technology companies can gain valuable insights into the specific needs and challenges of the industry and create more effective solutions that can drive digitalization and growth in the sports industry. Use cases within sports can quickly lead to multiplier effects and clubs often inquire with colleagues in the sports business. Thus, it is important for Dutch tech companies to start building a network (for more details see chapter 7.4) within the German sports business market to gain valuable insights and create effective solutions that can drive digitalization and growth in the industry.

In summary, the need and thus the potential for digitalization in the sports industry is driven by several factors, including the low status quo of digitalization in combination with stagnating or declining revenue sources and, consequently, the need for finding new (digital) revenue streams. Positive examples within the sports industry show that digital transformation can be achieved. Building a good network within the sports business and using multiplier effects can help to leverage the digital potential as the sports industry is well connected and relies on recommendations. Additionally, the young, digital-savvy future target group moving up in the customer chain and the need to respond to general social digital trends reinforce the importance of digitalization for sports organizations.

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2.2. Recommendations for Action

So what? What will it take for tech companies to thrive in the German sports business market?

Nielsen Sports recommends a two-pronged approach for action: create use cases through lighthouse projects with digitally advanced sports organizations and focus on top tier sports and their associations.

First, we advise Dutch tech companies to partner with sports organizations that have already demonstrated to have a deeper understanding of digitalization and create use cases through lighthouse projects, e.g., the DFL, Eintracht Frankfurt, 1. FC Köln, Hertha BSC Berlin, and the Handball-Bundesliga((HBL). These projects will demonstrate the potential impact of technology on the sports industry and help build credibility and momentum for the tech company's offerings and gain the support of network multipliers.

Second, we recommend that the Dutch technology company prioritize engagements with key stakeholders in Germany's top sports. Particularly, football, the highest revenue sport in Germany, but also basketball, ice hockey and handball, and engage with their key stakeholders, including the Basketball Bundesliga (BBL), HBL or Deutsche Eishockey Liga (DEL) as their respective leagues, and high revenue clubs such as FC Bayern München, Borussia Dortmund and RB Leipzig. A strategic, top-down approach, starting at the association level and cascading down to individual clubs, will facilitate market penetration.

Mid-sized clubs, in terms of sporting success and therefore annual turnover, might have a greater need to generate new revenue streams and could also be a viable target for Dutch tech companies. As such, they should consider pursuing these opportunities as well. However, the most likely paths to success lie in the first two recommendations identified. At the same time keep in mind that with an average of €40M, even each individual football club in the Bundesliga 2 has a higher turnover than the average basketball, handball or ice hockey club in Germany, which ranges between €6-8M.

In conclusion, by following these recommendations, Dutch tech companies can successfully navigate the German sports business and realize their potential for growth and impact. Overall, to thrive in the German sports business market, **Dutch technology companies must take a strategic and customer-focused approach**. However, it will be essential to realize that there is no general blueprint for a successful market expansion. In fact, service and product providers need to find individual approach strategies for each potential customer and, therefore, must understand the specific challenges and needs of German sports entities.

Regardless of the chosen approach our **general recommendations** include the following:

- **Develop solutions dynamically and based on target groups:** Understanding the unique characteristics of different sports and their organizational structures, and the specific needs and requirements of sports organizations and their fans. By taking this strategic and customer-centric approach, Dutch tech companies can better understand the market and tailor their products and services accordingly.

- **Be prepared to make upfront investments and create use cases:** Doing so can help establish credibility and position the company as a serious and reliable partner. This can include making financial commitments to establish their product or service as a sponsor or investing in use cases and providing free services or product samples for lighthouse projects at major sports organizations.

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- **Demonstrate your unique selling propositions, added value, and return on investment to potential customers:** Dutch tech companies should demonstrate the specific, customized value that the technology provides, a concrete and lucrative business model that achieves rapid break-even, and how the implementation of the digital product or service can create an independent revenue stream in addition to the core business and reduce dependency on sporting success.

- **Position yourself as experts and consultants within digitalization:** Dutch technology companies should position themselves as experts and consultants in digitalization by investing in the general digital development of sports organizations skills/capabilities sports organizations and becoming their first point of contact and a trusted advisor. This can help build trust and establish the company as a reputable and reliable partner and ensure that employees and users can continue to use the technology effectively and efficiently after the tech company's involvement ends.

- **Keep it super simple and start with the basics:** Dutch technology companies should focus on simplicity and addressing the basic needs of sports organizations, such as breaking down data silos to better understand and engage with fans. This approach can help them stand out in the market and provide value to potential customers.

- **Build a network within the sports industry:** Dutch technology companies should focus on building a network within the sports industry by developing strong relationships with key stakeholders, showcasing their capabilities and expertise, and collaborating with other companies and organizations. This will increase their chances of success by gaining better access to the sports business and growth opportunities. To achieve this, Dutch tech companies should invest in creating an online presence, such as a well-structured website, and use social media platforms, especially LinkedIn, to share relevant content, establish thought leadership, and maintain a consistent online presence within their professional network. In addition, they can attend trade shows and events such as SPOBIS, SPORTS.TECH.FORUM or DIGITAL SPORTS & ENTERTAINMENT to meet face-to-face with potential clients.

- **Be aware that German society in general is on the late end of the technology adoption curve.** German society tends to be cautious about new digital technologies, with strong concerns about transaction security, cybercrime, and the protection of personal data and privacy. As a result, Germany has a more complex and regulated business environment than other countries. This can make it difficult for new companies to enter the market and for existing companies to innovate.

For a deep dive on the recommendations please read the conclusion chapter.

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3. Status of Digitalization in Germany

3.1. Germany's Overall Progress

To understand the state of digital transformation and innovation in the German sports market, it is important to first examine the overall state of digitalization in Germany and compare it to other countries. This includes identifying strengths and weaknesses, and key challenges and barriers that impede Germany's progress in digitalization. However, before diving into that, it is important to start with a clear definition of digitalization to build a common understanding.

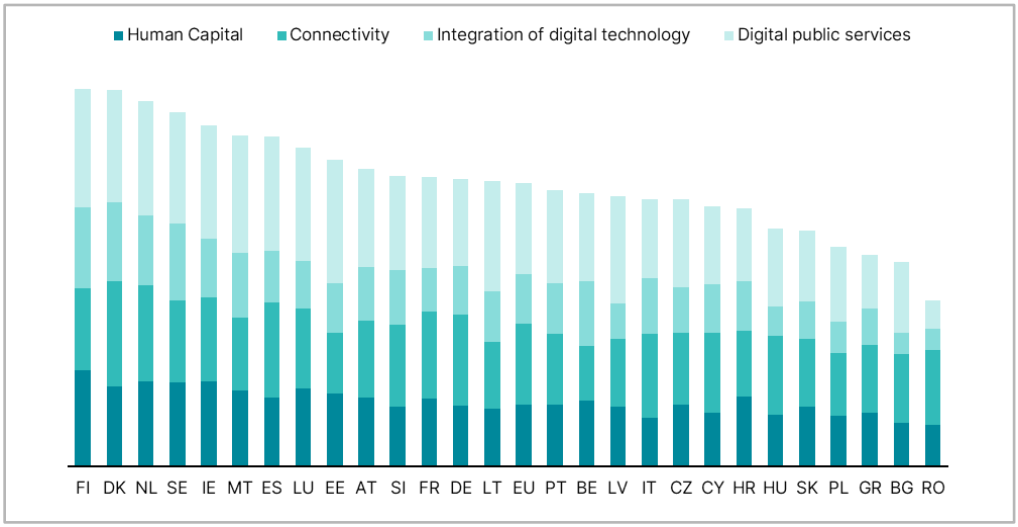
Digitalization is the use of digital technologies to change a business model and provide new revenue and value-producing opportunities. It encompasses the digitization of data, processes, and products, and the transformation of business models, society, and economy to fully leverage the opportunities provided by advanced digital technologies.

So how does Germany perform when it comes to transforming what was once analog to the digital world, how does it compare to other countries, and what are the key challenges that could potentially have an impact on the progress of digitalization in sports organizations?

The Digital Economy and Society Index (DESI) published by the European Commission is a widely accepted indicator of digital competitiveness among EU countries. It is composed of four main dimensions: human capital, connectivity, integration of digital technology, and digital public services. The DESI is designed to help EU countries identify their strengths and weaknesses in terms of digitalization, and to benchmark their performance against other EU countries.

In 2022, Germany was ranked 13th out of EU countries in the DESI[3], indicating that Germany's digitalization efforts have been slower than countries such as Finland, Denmark, the Netherlands, Sweden, and Ireland, which are the top 5 most digitally advanced EU countries. Germany's overall performance was slightly above the EU average and has improved only marginally since 2017 when Germany ranked 14th. The EU Commission identified that the major weaknesses are a lack of digital skills among the population and a shortage of IT specialists. Germany also lags other countries when it comes to digital adoption in the public sector.

Digital Economy and Society Index 2022 [4]



[3] The European Commission (2022). Digital Economy and Society Index (DESI) 2022. Retrieved from: https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022

[4] The European Commission (2022). Digital Economy and Society Index (DESI) 2022. Retrieved from: https://digital-strategy.ec.europa.eu/en/library/digital-economy-and-society-index-desi-2022

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To address these shortcomings, the German government has introduced a dedicated "Digital Strategy 2025", which aims to be among the top ten countries in the DESI by 2025. This means an improvement of three places in the DESI ranking in the next three years, however this will still not make Germany be one of the most innovative countries in the long term, but a first approach to bring about change in the short term. The German government's digital strategy is intended to facilitate the digital awakening and clear the implementation backlog of past legislative periods. Almost a decade after former chancellor Angela Merkel proclaimed the fourth and industrial revolution 'industry 4.0' in Germany, why has it been so difficult for the EU's largest economy to modernize and build digital infrastructure, especially in the public sector?

Clearly, financial constraints are not much of a problem. However, to answer this question, we need to take a closer look at the political system in Germany. With its Digital Strategy 2025, the government has recognized that the topic of digitalization should be a high priority and should no longer be ignored. As a consequence, in 2021, the newly elected governing coalition appointed a dedicated federal minister for "Digital Affairs and Transport". Before that, digitalization was only a subtopic in other ministries. In addition, due to the decentralized political system in Germany, all 16 federal states formulate their own policies in areas such as health, culture, and education. This has almost prevented standardized digitalization in the public sector across all areas in Germany. This is to change through the Digital Strategy 2025 program, as all ministries and the Chancellor's Office are now working together to achieve the goals nationwide, across the 16 federal states.

It is also a fact that the German society tends to have a reserved attitude towards new digital technologies, being highly concerned about transaction security, cybercrime and the protection of personal data and privacy.[5] As a consequence, Germany has a more complex and regulated business environment than other countries. This can make it difficult for new companies to enter the market and for existing companies to innovate. Furthermore, Germany has a rich tradition of worker protection and labor laws, which can make it difficult for companies to restructure and adapt to new technologies.

Germany is clearly lagging and now wants to set more demanding targets to keep pace with the transformation of digitalization. So far, these goals remain very limited, as the strategy sets only moderate targets, such as expanding fiber-optic Internet to half of all households by the end of 2025. As a result, Germany's digital competitiveness and ability to introduce digital technologies and implement them in companies and public authorities is still not where they are expected to be. Although the recent pandemic was a driver of digital transformation, the results of the "Online Access Act" adopted in 2017 prove that German government is still lagging behind. At the end of the year, an initial 575 administrative services were to be offered digitally. 114 services were implemented as part of the "Online Access Act".[6]

[5] Friedrich-Ebert-Stiftung (2019). Zeit für ein Update: Was die Menschen in Deutschland über Digitalisierung denken, 32. Retrieved from: https://library.fes.de/pdf-files/fes/15549.pdf

[6] Deutschlandfunk (2022). Digitale Verwaltung Deutschland bleibt offline. Retrieved from: https://www.deutschlandfunk.de/digitale-verwaltung-deutschland-hinkt-hinterher-100.html

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3.2. State of Affairs in Selected Digitalization Trends

In the previous chapter, we learned that the digital transformation is slowly picking up speed in Germany and the government is working heavily on improving the infrastructural and technological preconditions to prevent the risk of competitive disadvantage towards other countries and economies.

But how is the German industry performing when it comes to the most relevant individual aspects and trending disciplines of digitalization and what can we expect from future developments? Let's start with identifying these trends first: According to a survey conducted by McKinsey in 2022[7], artificial intelligence (AI), blockchain technologies including NFTs and cryptocurrencies, augmented reality (AR), and virtual reality (VR) were among the most common digital trends within the German population. Besides these, other trending technologies such as 5G network, big data, digital payment, and smart buildings, were identified due to their relevance for the sports industry, especially in the context of enhancing the fan experience. In the following, the progress in Germany around each of these technologies will be analyzed and an outlook on future developments will be provided.

Big Data

The democratization of data and the establishment of an analytics culture in companies in Germany is progressing only slowly. To drive change, the Federal Ministry for Economic Affairs and Energy in Germany launched the "Smart Data - Innovations from Data" technology program in 2016.[8] The aim of this program is to promote the use of data in Germany and increase the country's digital competitiveness. It is intended to help companies and organizations use and evaluate data more effectively to achieve better business results. Furthermore, the initiative aims to increase data security and data protection.

However, the EU General Data Protection Regulation (GDPR; in Germany referred to as DSGVO), which has been in force since May 25, 2018, has largely impeded this desired progress. The GDPR states that personal data must be processed in a lawful and transparent manner and that individuals have a right to access, portability and deletion of their data. This affects how companies and organizations are allowed to collect, process, and use big data, and requires them to ensure that their practices comply with data protection policies. Thus, GDPR is another issue that negatively impacts big data processing and makes it much more extensive.

Data ethics and protection is not seen as the biggest challenge when it comes to data collection and data mining though. According to a study from F.A.Z. Business Media[9], only 11% of the interviewed company representatives stated that data ethics impedes digital innovation. In fact, it is rather a lack of an established data culture, digital know-how, and missing internal and external data interfaces that slows down the overall progress. The industry is perceiving immense pressure to use data more efficiently and effectively to develop new business models. This was confirmed by an overwhelming 76% of company representatives. 43% of these even stated that big data and offering data-based solutions will be critical to the business success of their companies.

One of the key findings presented by the market research and consulting firm Information Services Group (ISG) is that the market for data analytics is now picking up speed in Germany. More and more user companies are shedding the restraint of earlier years and investing in the development of advanced analytics. The aim is to continue to gain new insights into customer behavior and processes in value chains. Service and solution providers are seizing on the positive market trend and significantly expanding their advanced analytics portfolio.

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[7] McKinsey & Company (2022). Digital Sentiment Survey 2022: Digitale Nutzer:innen verstehen, 27. Retrieved from: https://www.mckinsey.de/~/media/mckinsey/locations/europe%20and%20middle%20east/deutschland/2022-07-25%20digital%20sentiment%20survey%20germany%202022/mckinsey_digital_sentiment_survey_germany_2022_vf.pdf

[8] Bundesministerium für Wirtschaft und Energie (BMWi) (2016). Smart Data - Innovationen aus Daten: Ein Technologieprogramm des Bundesministeriums für Wirtschaft und Energie, 2. Retrieved from: https://www.bmwk.de/Redaktion/DE/Publikationen/Digitale-Welt/smart-data-innovationen-aus-daten.pdf?__blob=publicationFile&v=25

[9] F.A.Z. Business Media / Sopra Steria SE (2022). Managementkompass Daten nutzen. Retrieved from: https://research.faz-bm.de/publikationen/soprasteria/managementkompass-survey-daten-nutzen/

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"In recent years, the German analytics market has been stuck in a kind of sideways movement. Above all, the shortage of skilled workers and the availability of analyzable data have for a long time severely slowed down demand. [...] Now the demand for advanced analytic solutions is rising noticeably", said Heiko Henkes, Director & Principal Analyst at Information Services Group (ISG).[10]

5G Network

The implementation of the 5G network in Germany is currently underway. While certain urban centers and regions have begun to receive 5G services, nationwide coverage has yet to be fully established. A recent study of the global distribution of 5G network speeds shows that Germany lags significantly behind its European counterparts. This highlights the need for further development in this area. The measured media value from Germany is only one tenth of the measured media value from the Netherlands. This puts Germany in 35th place in the global comparison by the end of 2021.[11]

To understand why Germany is only able to expand with difficulty, it is necessary to look at the allocation of 5G frequencies. The Federal Network Agency ended the auction for 5G frequencies in Germany on June 12, 2019. Four network operators prevailed. However, the network operators are not all building a 5G network in Germany at the same pace. This is because 5G rollout is a costly affair. One factor is the expensive antennas. And network operators need government permits to erect new radio masts and base stations. It takes about two years from application to installation, as pointed out by Vodafone CEO Hannes Ametsreiter.

However, this should change quickly in the future. A study from Verivox, a price comparison provider, already shows a positive development: two-thirds of the German population already have access to 5G. However, the majority of smartphones do not yet support this technology. In fact, the actual use rate is currently in the single-digit percentage range. According to the plans of network operators this is supposed to increase rapidly. Vodafone stated that the use of the fast network had increased by a factor of 7.5 from June 2021 to June 2022. Deutsche Telekom said that eight times as much data ran over its 5G network in the first half of 2022 than in the same period of the previous year.[12] The analysts from Berg Insight even come to the conclusion that the deployment of private LTE/5G networks will increase almost tenfold in the period from 2021 to 2026.[13] The two competitors Vodafone and Telekom were also able to achieve their targets for the expansion of 5G. Vodafone, for example, has activated 20,000 additional 5G antennas in 2022. This means the company reaches 75 percent of the population. However, according to its own figures, Deutsche Telekom remains the leader in 5G coverage. According to Deutsche Telekom, its 5G network already reaches more than 92 percent of households. The expansion, accessibility, and use of 5G networks is therefore expected to increase significantly in the coming years.

Artificial Intelligence

As the percentage of the world's working population declines in many countries, AI is providing much needed automation to maintain and accelerate productivity growth at the micro and macro levels. At the micro level, companies are now adopting various AI technologies to reap benefits such as lower labor costs, higher throughput, better quality, and reduced downtime. At the macro level, automation is expected to drive substantial productivity growth.

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[10] IT Verlag für Informationstechnik GmbH (2022). Deutscher Data-Analytics-Markt: Investitionsstau löst sich langsam auf. Retrieved from: https://www.it-daily.net/it-management/big-data-analytics/deutscher-data-analytics-markt-investitionsstau-loest-sich-langsam-auf

[11] Ookla, & Speedtest. (2021). 5G network availability worldwide in Q3 2021, by country. In Statista. Retrieved from: https://www.statista.com/statistics/1310567/5g-availability-by-country/

[12] Verivox GmbH (2022). Studie zu 5G: Westeuropa ist bei fünfter Mobilfunkgeneration auf dem Vormarsch. Retrieved from: https://www.verivox.de/handy/nachrichten/studie-zu-5g-westeuropa-ist-bei-fuenfter-mobilfunkgeneration-auf-dem-vormarsch-1119521/

[13] WEKA FachmedienGmbH (2022). Steigende Nachfrage soll bis 2027 zu einem Boom führen. Retrieved from: https://www.elektroniknet.de/kommunikation/mobilfunk/steigende-nachfrage-soll-bis-2027-zu-einem-boom-fuehren.194677.html

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Germany is a leading player in the field of AI with a solid research and development community and a supportive government policy. In 2018, the German government introduced a dedicated and comprehensive AI strategy that aims at “making Germany and Europe global leaders on the development and use of AI technologies and securing Germany's competitiveness in the future”.[14] This should be achieved by educating or importing skilled AI professionals, establishing a high-performance research and development ecosystem and by setting regulatory frameworks that make sure that the technology is used to the welfare of the society. As of today, Germany is home to the Fraunhofer-Gesellschaft and the Max-Planck-Gesellschaft that are world-renowned for their achievements in AI research. In addition, six centers of excellence for AI research were established across the country as part of the government’s AI strategy.

As a result, Germany was among the top 10 leading AI nations according to Digital Catapult’s Digital Future Index 2021-2022, a study that assesses a country’s digital technology capabilities based on talent, innovation and commercial ventures, infrastructure, research, operating environment, and development.[15] However, as for several other technologies developed in Germany, e.g. the MP3 format or solar technology, the country’s corporate world oftentimes struggles with transferring these innovations into successful business applications. In another survey, Bitkom Research analyzed the actual use of AI at a corporate level. Only 9% of the interviewed companies confirmed that they already use AI, while 64% said that they do not plan to use it. So far, if used at all, AI technology is primarily used in marketing and customer retention (81%). Around half of the companies use AI in production, in purchasing, and in accounting, respectively. Rather rarely, AI supports strategy creation, IT services, logistics, people management and research and development. Overall, the majority of German companies perceive AI as a great opportunity for their business with 65% of interviewees agreeing on this.[16]

Certainly, investments in AI made by German businesses will increase and more companies will adopt AI technology, but only slowly. Germany’s government has built a solid foundation for the future. If the country can build and maintain a skilled AI workforce and further facilitate technology adoption across companies, Germany will further establish itself as a leading player in the global AI landscape.

Digital Payments

More developed economies, including Germany, have introduced a cashless payment system based predominantly on credit card payments several decades ago. However, these established structures have become an obstacle to digital payment adoption in recent years. These markets now take longer to implement new payment methods than emerging markets, such as China, India, or Eastern Europe. Large segments of the population in developing countries in Asia, Africa, and Latin America were inadequately banked until mobile payments and related innovations emerged, which depend on access to mobile technology.

A study by the European Central Bank (ECB) comparing the use of different payment instruments at the point-of-sale (POS) by number of transactions per country in 2022 showed that a large number of transactions in Germany are still done with cash. Only one-third of all transactions are paid with a card, while almost two-thirds are paid with cash. This contrasts with the Netherlands, where two-thirds of all transactions in 2022 were paid with a card and only one-fifth were paid with cash, indicating that Germany still must adopt the principle of cashless payments.

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[14] Bundesministerium für Bildung und Forschung (BMBF) (2022). Künstliche Intelligenz. Retrieved from: https://www.bmbf.de/bmbf/de/forschung/digitale-wirtschaft-und-gesellschaft/kuenstliche-intelligenz/kuenstliche-intelligenz_node.html

[15] Digital Catapult (2021). Digital Future Index 2021-2022, 33. Retrieved from: https://www.digicatapult.org.uk/wp-content/uploads/2021/11/Digital_Future_Index_2021_2022_-_Digital_Catapult.pdf

[16] Bitkom Research (2022). Künstliche Intelligenz - Wo steht die deutsche Wirtschaft?, 2. Retrieved from: https://www.bitkom.org/sites/main/files/2022-09/Charts_Kuenstliche_Intelligenz_130922.pdf

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This is because Germans generally don't like debt and view cash as a part of the country's culture.[17] A survey found that Germans justify this primarily based on privacy protection, a good overview of spending and the reliability of coins and bills.[18]

However, the use of digital payments in Germany is expected to grow significantly in the coming years, and adoption has already seen a big leap, accelerated by the COVID-19 pandemic. According to Statista market forecasts, the transaction volume of digital payments is projected to increase by 71% by 2027, but is still expected to be behind digital-savvy countries like the Netherlands in terms of penetration rate.[19]

Augmented Reality and Virtual Reality

Augmented reality and virtual reality are certainly not brand-new technologies having been around for many years with the first AR/VR head mounted display created by Ivan Sutherland in 1968.[20] The technologies have recently gained popularity due to the development of the metaverse and its potential to replace the internet in the future. The AR and VR market in Germany is growing across all market segments, including hardware, software, and advertising, with total revenue amounting to €1.2B in 2022 according to Statista's Advertising & Media Markets Insights.[21]

However, there is clear evidence that these technologies are still at a very early stage in Germany since adoption is still very low among the German population. As of 2022, 75% had never heard of the term metaverse and only 4% had a clear understanding of it. VR glasses and headsets are certainly not yet part of everyday life, but interest in using virtual reality devices is growing rapidly. While only 21% said that they would probably use a VR device in 2019, this number grew to 43% in 2022, according to Bitkom Research and ARIS[22]. AR-driven filters in social media apps such as TikTok or augmented reality games such as Pokémon Go have clearly helped to drive adoption.

Augmented reality and virtual reality have already found their way into the working process of German companies. Dr. Sebastian Klöß, AR/VR expert at Bitkom says: “Although virtual reality and augmented reality have not been able to establish themselves as a mass market product, there are already many highly specialized applications in place that are used by German companies.”[23] For instance, national railway company Deutsche Bahn uses AR technology to improve customer service during the maintenance and repair of its trains. The technology has been used to provide training and instructions to employees working on the trains to ensure they can work safely and efficiently. Also, German healthcare company Fresenius launched a training program for patients who are having home dialysis treatment in the country, with the technology enabling nurses to train multiple patients at a time. Overall, 20% of companies currently use virtual reality applications, while 16% use augmented reality solutions. It is believed that these numbers will continue to grow since 30% and 27% consider using virtual reality and augmented reality, respectively.

With continued growth in adoption among corporations and society, expected growth of the metaverse, improvement in hardware and software and decreasing costs, the future for the German AR and VR market looks promising, with the total market size expected to double by 2027, according to Statista forecasts.

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17 European Central Bank (ECB) (2022). Study on the payment attitudes of consumers in the euro area (SPACE), 19. Retrieved from: https://www.ecb.europa.eu/stats/ecb_surveys/space/shared/pdf/ecb.spacereport202212~783ffdf46e.en.pdf

18 Welt (2022). Bargeld-Liebe der Deutschen unerschütterlich – deshalb hat es die Karte so schwer. Retrieved from: https://www.welt.de/finanzen/article239763217/Bargeld-Liebe-der-Deutschen-deshalb-hat-es-die-Karte-so-schwer.html#:~:text=%E2%80%9C%20Und%20das%20d%C3%BCrfte%20auch%20so,und%20Scheine%20f%C3%BCr%20besonders%20zuverl%C3%A4ssig.

19 Statista (2023). Digital Market Insights: Digital Payments. Retrieved from: https://www.statista.com/outlook/dmo/fintech/digital-payments/germany?currency=EUR

20 Virtual Reality Society (2023). History of Virtual Reality. Retrieved from: https://www.vrs.org.uk/virtual-reality/history.html

21 Statista (2023). Advertising & Media Markets Insights: AR & VR,. Retrieved from: https://www.statista.com/outlook/amo/ar-vr/germany

22 Bitkom Research (2022). Können Sie sich vorstellen, künftig eine VR-Brille zu nutzen?. In Statista. Retrieved from: https://de.statista.com/statistik/daten/studie/438899/umfrage/umfrage-zum-interesse-an-virtual-reality-brillen-in-deutschland

23 Bitkom Research (2022). Unternehmen nutzen VR oder AR vor allem für die Weiterbildung. Retrieved from: https://www.bitkom.org/Presse/Presseinformation/Unternehmen-nutzen-VR-AR-Weiterbildung

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Smart Buildings

Technology in buildings, or often referred to as smart or connected buildings, is another facet of digitalization and is believed to be one of the major impactful advancements since it will transform the way we work, live, shop, and relax. But not only is this concept going to make our lives easier, but it will also make a major contribution to being more sustainable by lowering energy consumption and costs. At the same time, implementing automatic access and crowd control technology, and surveillance systems in buildings, including sports facilities such as stadiums and arenas, will increase the level of security. But where does Germany stand in the evolution of smart buildings? According to a study published by the Bundesverband Digitale Wirtschaft (BVDW)[24] in 2021, the digital transformation of buildings in Germany is still in its early stages. The major investments required, lack of a clear digitalization strategy and insufficient know-how on how to operate the systems are some of the main challenges that need to be addressed.

To gauge how connected buildings or even larger infrastructures in Germany are compared to other countries, we can look at Economist Impact's Digital Cities Index 2022[25]. The index ranks 30 global cities based on their performance in connectivity, services, culture, and sustainability. The study found that many other countries are far more advanced when it comes to smart buildings: Out of the 30 cities analyzed in the study the only two German cities Frankfurt and Berlin ranked 14th and 16th respectively, while the top 5 cities included Copenhagen, Amsterdam, Beijing, London, and Seoul.

As with many other areas of digitalization, Germany still has a lot of work to do to reach the next level of smart building readiness and close the gap with other countries that have a more connected infrastructure. However, existing examples of smart buildings in Germany such as the Cube Berlin or The Ship in Cologne show that the country is ready to take the next steps.

Blockchain Technology

The German government has shown support for blockchain technology and has implemented various initiatives to promote its development and adoption. In fact, Germany was one of the first countries that introduced a dedicated blockchain strategy in 2019. This strategy aims to establish Germany as a leading location for blockchain innovation and to promote the use of blockchain technology by creating a regulatory framework that "(...) creates incentives to make investments, releases forces of innovation, secures stability, and contributes to inclusive growth."[26]

However, adoption of blockchain technology and its most common application areas cryptocurrencies and non-fungible tokens (NFT) remains low among the German population. A study conducted by Bitkom Research[27] in 2021 found that 52% of Germans have never heard of blockchain, and only 17% have a clear understanding of it. Unsurprisingly, the term cryptocurrency is more common in Germany with 45% of the survey participants stating that they know what a cryptocurrency is. Meanwhile, only 13% of Germans had heard of NFTs in a representative survey by CLARK that was also conducted in 2021.[28] However, NFT adoption had almost doubled compared to the study that was conducted just one year before. When considering the share of people that actually own cryptocurrencies or NFTs, the numbers can vary a lot depending on the data source. While ownership is believed to be around 1% for NFTs in Germany[29], the adoption rate for cryptocurrencies ranges from 4%[30] to 12%.[31]

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[24] Bundesverband Digitale Wirtschaft (BVDW) e.V. (2021). Smart Buildings: Erfolgskritische Trends und Anwendungsfälle für Gebäudeplanung und Betrieb, 6. Retrieved from: https://atpinfo.de/wp-content/uploads/2021/03/Studie-2021-Smart-Buildings-Erfolgskritische-Trends-und-Anwendungsfaelle-fuer-Gebaeudeplanung-und-Betrieb.pdf

[25] Economist Impact (2022). Digital Cities Index 2022 – Making digital work for cities: A global benchmark of urban technology. Retrieved from: https://impact.economist.com/projects/digital-cities/wp-content/uploads/2022/06/DCI2022_white_paper_eng.pdf

[26] Federal Ministry for Economic Affairs and Energy (2019). Blockchain Strategy of the Federal Government, 4. Retrieved from: https://www.bmwk.de/Redaktion/EN/Publikationen/Digitale-Welt/blockchain-strategy.pdf?__blob=publicationFile&v=3

[27] Bitkom Research (2021). Die Hälfte der Deutschen hat noch nie von der Blockchain gehört. Retrieved from: https://www.bitkom.org/Presse/Presseinformation/Die-Haelfte-der-Deutschen-hat-noch-nie-von-der-Blockchain-gehoert

[28] Clark Germany GmbH (2021). NFT-Hype: Bekanntheit und Beliebtheit im letzten halben Jahr verdoppelt. In Presseportal. Retrieved from: https://www.presseportal.de/pm/139186/5061578

[29] Finder.com (2022). NFT Statistics. Retrieved from: https://www.finder.com/nft-statistics

[30] Triple A (2023). Cryptocurrency Ownership Data. Retrieved from: https://triple-a.io/crypto-ownership-data/

[31] Statista. (2022). Share of respondents who indicated they either owned or used cryptocurrencies in 56 countries and territories worldwide from 2019 to 2022. In Statista. Retrieved from: https://www.statista.com/statistics/1202468/global-cryptocurrency-ownership/

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Either way, all sources indicate that Germany is far behind other countries across the world when it comes to adopting these technologies, considering the fact that the average NFT ownership rate worldwide is at 3% and the cryptocurrency adoption rate in the United States is thought to be at 8.3% to 16%. The lack of widespread adoption and understanding of blockchain technology, including all its affiliated concepts and services, is commonly seen as one of the biggest challenges the industry is facing today. Despite the growing interest in blockchain technology, many companies are still hesitant to invest in it due to the lack of knowledge of the technology and its potential benefits. However, anticipating ongoing support from the German government and an increased adoption among the German industry and wider population, the development of blockchain technology in Germany is expected to continue to grow rapidly in the coming years. According to market forecasts, the transaction volumes for cryptocurrencies and NFTs in Germany are believed to double and triple by 2027, respectively. Furthermore, the fact that 59% of German companies believe that blockchain is one of the most relevant next generation technologies[32] shows that blockchain will continue to evolve and mature.

In summary, Germany has been lagging behind in its efforts to drive digital transformation, with a deficit in competencies, skilled workforce, regulatory frameworks, and infrastructure. The political system and bureaucracy have hampered progress, while society's concerns over data privacy and security have slowed adoption of digital technologies. However, the newly-elected government is now placing a greater emphasis on digital advancement, though the impact of these efforts may not be immediately apparent.

So what? This relatively poor digital performance can be a major disadvantage for German companies, who may need to import skills, services, and expertise from more advanced countries, while foreign companies may face challenges in expanding their business to Germany due to a lack of digital infrastructure and complicated regulations. It is important for foreign companies to be aware that Germany's openness towards and know-how about digital technologies may differ from their own and processes should be expected to be much slower.

[32] Bitkom Research (2021). Blockchain - Wo steht die deutsche Wirtschaft im Jahr 2021, 5. Retrieved from: https://www.bitkom.org/sites/main/files/2021-12/16.12.21-chartbericht-blockchain-2021.pdf

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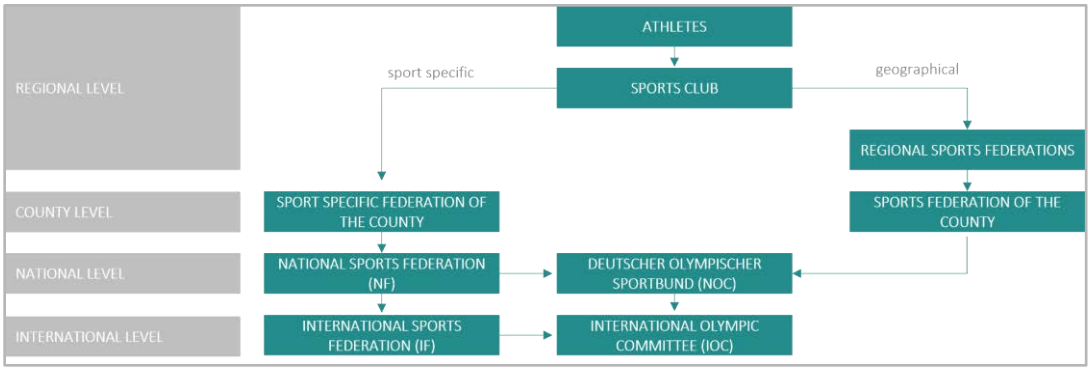
4. Overview of the German Sports Market

4.1. Market Segmentation / Overview of Key Stakeholders

Sport in Germany is organized in traditional federation and club structures. There are only a few exceptions, for example, in motor sports or road cycling, which are organized at the top level in private teams. The top sport's governing body in Germany is the German Olympic Sports Association (DOSB), which serves as the German NOC and is a member of the IOC. Germany's top sports federations are organized in the DOSB and are also members of their international sports federations. Each sport can only be organized in one top sports federation. It is responsible for the development of competitions systems from youth to elite, the promotion of the sport and grassroot sports.

Individuals in Germany can become members of (regional) sports clubs and make use of the sports programs offered there. Club members have a legal right to participate actively in their club and are entitled to vote - also in top professional sports clubs as for example in Bundesliga clubs. Sports clubs again are members of the sport specific federal sports federation. Federal sports federations are usually divided by county and are members of the national top sports federation. The sports development system provides for athletes to develop through regional clubs to county and national levels.

Structure of Organized Sports in Germany [33]



Federations and clubs are legally registered as such and thus holders of the sports marketing and media rights rights to their own organization. For that reason, they are called sports rights holders. Due to legal and tax policies in Germany that allow sports federations some simplifications and benefits, sports rights holders often outsource their sports marketing business. Sport rights holders organize sports events in cooperation with professional organizing committees, clubs (or their outsourced business operation) or by themselves. Rights can be transferred to the organizer, but this is not necessarily the case.

For active participation and sports club memberships, the Deutscher Fußball-Bund (DFB) is the biggest federation by far, with more than 7 million members in 2022. It is followed by gymnastics (Deutscher Turner-Bund, DTB) and tennis (Deutscher Tennis Bund, also DTB*) and the domestic climbing and mountaineering federation (Deutscher Alpenverein, DAV)[34]. Amongst all Olympic and non-Olympic federations darts (Deutscher Dart Verband, DDV, 8%), rugby (Deutscher Rugby-Verband, DRV, 7%) and field hockey (Deutscher Hockey-Bund, DHB, 6%) are the fastest growing ones. Surfing (Deutscher Wellenreit Verband, DWV, -12%), ice skating (Deutsche Eislauf Union, DEU, -10%) and dancing

[33] Adapted from Prof. Dr. Helmut Digel (n.d.). Strukturen des Sports in Deutschland I. Retrieved from: https://sport-nachgedacht.de/wiss_beitrag/strukturen-des-sports-in-deutschland-i/

[34] Deutscher Olympischer Sportbund e. V. (2022). Bestandserhebung 2022, 12. Retrieved from: https://cdn.dosb.de/user_upload/www.dosb.de/uber_uns/Bestandserhebung/BE-Heft_2022.pdf

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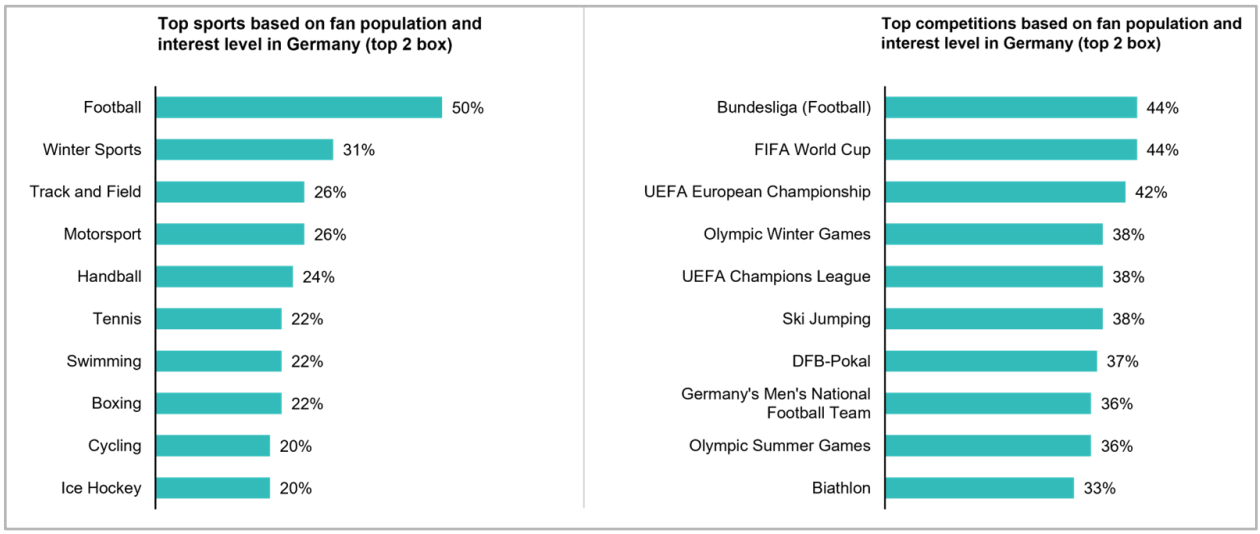
(Deutscher Tanzsportverband, DTV, -9%) are the Olympic sports federations with the biggest losses in 2022.[35]

According to our research, when it comes to passive consumption of sport, Germans are mostly interested in football, with around half of the population following the world's most popular sport. The second and third most popular sports are winter sports with 31% and track and field with 26%. Regarding top events, Germans show their greatest interest in the Bundesliga, FIFA World Cup, UEFA European Championships but also Olympic Winter Games and Ski Jumping. Those numbers indicate very clearly the high interest of Germans primarily in football and winter sports. But also, Formula 1 ranks 11th in terms of top leagues and events based on population and interest level.[36]

Ranking of Most Popular Sports and Sporting Events Among the German Population [37]



Top broadcasts on free air channels have been the UEFA Women's Euro final, semifinal, and quarter final, followed by the UEFA Europa League final. All 10 most watched broadcasts have been football events. In terms of top events (multiple day events), also football events like the FIFA World Cup qualifiers, the UEFA Europa League, the UEFA Women's Euro, and the DFB Pokal have generated the most interest. But also, events like European Men's Handball Championships, the Biathlon World Cup, the Four Hills Tournament, or the Olympic Winter Games Beijing have generated big interest in 2022.[38]

Football, the most popular sport in terms of members, media audience and interest, is organized by its governing body Deutscher Fußball Bund. Its top league is outsourced to Deutsche Fußball Liga. The DFL is legally a business company while DFB remains a federation. DFL is responsible for the organization and marketing of German professional football (Bundesliga and Bundesliga 2). Football clubs need a DFL license that allows them to play within the league system.

Similar systems can be observed in other team sports that are popular in Germany. Also, handball, basketball and ice hockey are organized in outsourced league systems. In handball, the Deutscher Handball Bund (DHB) serves as the top sports federation. It is responsible for the national team and will be the host of the Men's EHF EURO 2024, while the HBL organizes and operates the top domestic handball club competitions. In ice hockey and basketball, the Deutscher Eishockey Bund (DEB) and the Deutscher Basketball-Bund (DBB) are the governing bodies of their respective sport. The DEL and the BBL organize the top domestic leagues, respectively. Other sports such as gymnastics (Deutscher

[35] Deutscher Olympischer Sportbund e. V (2022). Bestandserhebung 2022, 6-10. Retrieved from: https://cdn.dosb.de/user_upload/www.dosb.de/uber_uns/Bestandserhebung/BE-Heft_2022.pdf

[36] Nielsen (2023). Nielsen Fan Insights (wave of December 2022). For more information: https://nielsensports.com/nielsen-fan-insights/

[37] See 34

[38] Glance: Global Audience & Content Evolution (2022). Yearly Sport Key Facts 2022 issue: The complete overview of Sports on Television, 93.

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Turnerbund) and tennis (Deutscher Tennisbund) are organized in the hierarchy described early in this chapter through top sports federations, federal sports federations and clubs. Competition systems are not separately organized through outsourced leagues but through the federation itself.

All federations can apply for public funds if required. German sports in general are skeptical about innovative financing models. Thus, the so-called 50+1 rule was introduced in German football. It states that the football club itself must own at least 50+1% of an outsourced unit to receive a season license by the Deutscher Fußball-Bund. Due to the lack of openness to investors, associations and clubs have limited financial resources at their disposal - a few exceptions excluded.

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4.2. Market Volume

Before diving into the size of the German professional sports market, it is important to understand how professional sports rights holders primarily generate revenues. Overall, sponsorship and media rights, ticketing, catering, and merchandising account for the lion's share of income. The individual contribution of each category is strongly dependent on the popularity of the sport and the rights holder type. For instance, the Bundesliga and its teams usually earn more than 35% of total revenue through the sale of media rights in non-pandemic years due to its large media coverage. Besides this, sponsorship rights (20% to 25%) and matchday revenues including ticketing and catering (10% to 15%) are the most important revenue sources for the Bundesliga[39]. Most professional rights holders outside of the Bundesliga are even more dependent on sponsorship rights and matchday revenues since they are not able to attract a TV audience of similar size and hence, cannot sign as valuable media rights contracts as the country's top football league.

Before the COVID-19 pandemic hit Germany, leading to cancellation of many sporting events or empty stands in stadiums and arenas throughout the country, especially in 2020 and 2021, income from the above-mentioned revenue streams had seen a very positive overall trend. According to the Bundesministerium für Wirtschaft und Energie (BMWi), the income from sponsorship and media rights, ticketing, catering, and merchandising increased by 21% between 2015 and 2019[40].

More recent numbers show a similar trend and more interestingly, indicate that the German sports market has recovered from the impact of the COVID-19 pandemic. According to Nielsen Sports, companies invested €4.0B in sponsoring German sports entities in 2021, which is only slightly below the investment of €4.1B in 2019. Compared to other European key markets, Germany ranked first in terms of sponsorship volume in 2021 (UK €3.0B, Italy €1.0B, Spain €1.0B, France €1.0B).[41]

Income from selling media rights has even exceeded the pre-COVID-19 investments in Germany, with €2.1B that have been spent on this rights category in 2021. In this context, it is worth noting that the value of the Bundesliga's media rights accounts for a remarkable 56% of the entire media rights market volume. The size of the German media rights market is only exceeded by the US (approx. €22.0B) and UK (approx. 4.5B).[42]

[39] DFL (2022). Wirtschaftsreport. Retrieved from: https://media.dfl.de/sites/3/2022/04/EN_DFL_Wirtschaftsreport_2022_M.pdf

[40] Bundesministerium für Wirtschaft und Energie (2021). Sportwirtschaft: Fakten & Zahlen (2021 edition). Retrieved from: https://www.bmwk.de/Redaktion/DE/Publikationen/Wirtschaft/sportwirtschaft-fakten-und-zahlen-2021.pdf?__blob=publicationFile&v=6

[41] Nielsen Sports (2022). ESA Sponsorship Market Overview

[42] SportBusiness Consulting (2021). Global Media Report 2021: Analysis of the global value of media rights in 2021, including a breakdown of the top sports, properties and markets

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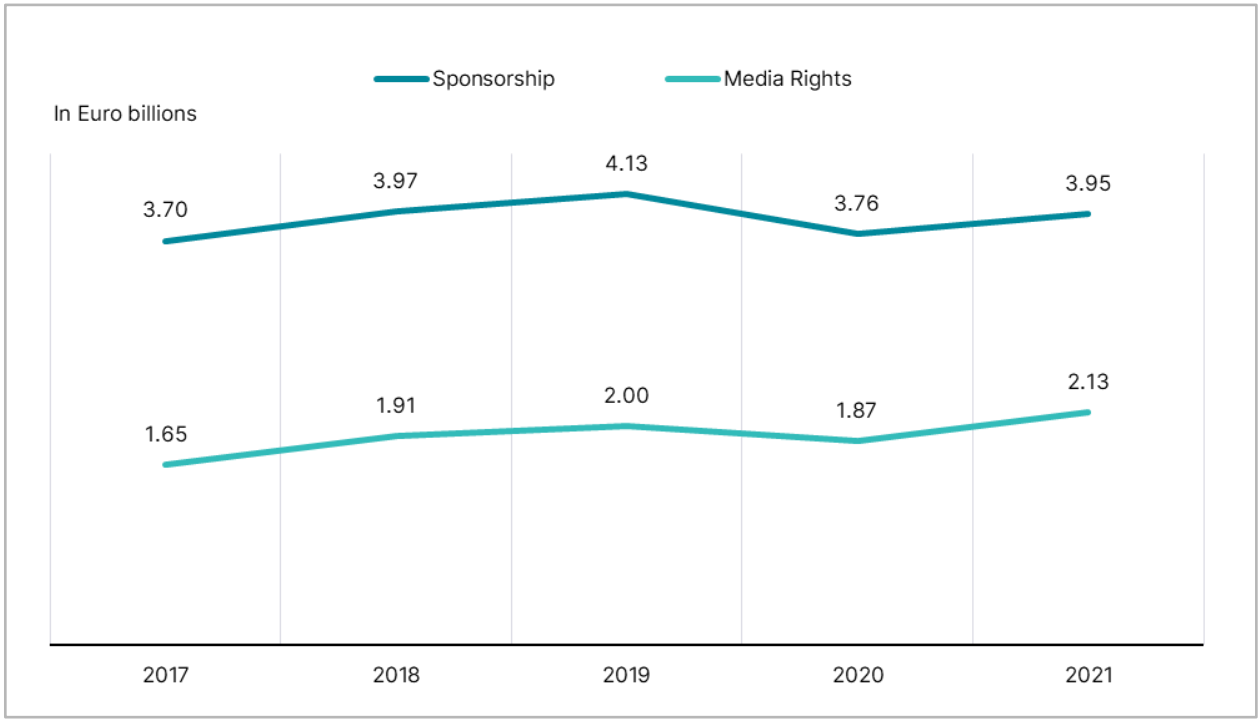
Development of Expenditures for Sponsorship and Media Rights in Sports in Germany 2017-21
43



When looking at the individual sports leagues, the income of clubs differs widely across these competitions. As indicated earlier, Germany's most popular sport football is way ahead of the game with an average revenue of €220M per team in the 2020/2021 season, ranging from €89M for the lower third of teams to €347M for the six wealthiest teams on average. Top player is FC Bayern München that reaches a revenue of €665M[44]. However, at the same time, only five out of 18 clubs recorded a positive net income. By comparison, the revenues of second-tier sports leagues in Germany - BBL (basketball), DEL (ice hockey) and HBL (handball) range from €105M to €135M for the total league[45]. Nearly all their teams struggle to break even since revenues per club are significantly lower compared to football teams in the first and second Bundesliga: teams from the DEL generate roughly €8M on average per season, while teams from the HBL and BBL earn between €6M and €7M respectively.[46]

These numbers not only indicate a huge financial gap between football and all other sports, but also show that even the richest rights holders are to be classified like medium-sized companies in terms of headcount and annual income. Besides Bundesliga teams and a small group of non-football sports organizations, sports rights holders have only limited financial resources available to be invested in what is not directly associated with the sporting performance.

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[43] See 39 and 40

[44] FC Bayern München (2022). Jan-Christian Dreesen: Starkes Ergebnis in schwierigem Umfeld. Retrieved from: https://fcbayern.com/de/news/2022/10/jahresabschluss-der-saison-2021-22---jan-christian-dreesen-starkes-ergebnis-in-schwierigem-umfeld

[45] Inside Sports Media GmbH (2022). Welcome to… Wachstumsniveau. Retrieved from: https://basketball.de/bbl/saison-2022-23-corona-energiekrise-welcome-to-wachstumsniveau/, Sponsors (2022). Wie die HBL mit dem S-Nation-Deal ihren Umsatz verdoppeln will. Retrieved from: https://www.sponsors.de/news/themen/wie-die-hbl-mit-dem-s-nation-deal-ihren-umsatz-verdoppeln-will, NRD (2022). Eishockey will der Energiekrise trotzen - DEL peilt Umsatzrekord an. Retrieved from: https://www.ndr.de/sport/mehr_sport/Eishockey-will-der-Energiekrise-trotzen-DEL-peilt-Umsatzrekord-an,eishockey652.html#:~:text=Nach%20dem%20Absturz%20auf%2084,wieder%20133%20Millionen%20Euro%20um

[46] SPONSORs (2018). BBL, DEL, HBL, VBL: Die Umsatz-Analyse. Retrieved from: https://www.sponsors.de/news/themen/bbl-del-hbl-vbl-die-umsatz-analyse

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4.3. Germany’s Sporting Event Landscape

Top sports events in Germany must be differentiated between national and international events. International events are usually competitions that have been allocated by an international to a national federation, e.g., FIFA World Cup.

The respective national federation itself organizes national events. In terms of audience, football is the most popular sport in Germany with its event series Bundesliga, Bundesliga 2, DFB Pokal and Bundesliga Women. The HBL that runs from September to June follows it. Further important national series are DEL and the BBL.

In the upcoming years, various major international championships will take place in Germany. Most important to mention here is the 2024 UEFA European Football Championship. The European Championship will be the greatest sports event that Germany has seen in recent years and is supposed to become the most sustainable football championship ever[47]. The championship will be covering the whole of Germany and the matches will be played in Berlin, Cologne, Munich, Frankfurt, Hamburg, Dortmund, Leipzig, Gelsenkirchen, Stuttgart and Düsseldorf. It is important to note that the tournament will be managed by "EURO 2024 GmbH", a joint venture between the DFB and UEFA. This means that in the years leading up to the tournament, UEFA will mainly decide, implement, manage and control 80-90% of the tournament's digital infrastructure and software from its headquarters in Nyon, Switzerland, while the German counterpart will be responsible for the tournament itself.

Further events to be mentioned here, are in chronological order the 2023 Special Olympics World Games with more than 600 athletes (winter) and 7,000 athletes (summer) respectively, the 2023 Invictus Games and the 2023 CEV EuroVolley Women. 2024 will become the year of championships, as Germany will host additionally the EHF European Handball Championships on top of the UEFA European Championships. Additionally, the UEFA has allocated the 2025 UEFA Champions League Final to the DFB which will be hosted by the Allianz Arena in Munich. Furthermore, in 2025 Germany will host the FISU World University Games Rhein-Ruhr and the IHF World Women's Handball Championship.

Since winter sports enjoy great popularity among the German population, various international high-class events take place in the country on a regular basis, attracting great audiences in Germany in the venues and in front of the TV. Organized in World Cup series with biannual (FIS) or annual (IBU) World Championships, the German Ski Federation (DSV) and its organizing committees host several winter sport events in alpine skiing, cross-country skiing, ski jumping, nordic combined and biathlon between December and March each year. Hereby, annual highlights for the German Ski Federation are the FIS Ski World Cup in Garmisch-Partenkirchen (Kandahar) and the IBU Biathlon World Cups in Ruhpolding and Oberhof. Additionally, Germany regularly hosts World Championships in these sports like the upcoming IBU Biathlon World Championships Oberhof in February 2023.

In other popular sports, such as motorsports and tennis, the highlight series are Deutsche Tourenwagen Masters (DTM), ADAC GT Masters and MotoGP. While the Formula One does not stop in Germany, Berlin will host the Sabic Berlin E-Prix as part of the Formula E series in April 2023. The DTB will host seven WTA and ATP tournaments in 2023 in Germany, including both the WTA 500 events Porsche Tennis Grand Prix in Stuttgart and the Bett1Open in Berlin.

As mass participation events such as running, triathlon and cycling competitions become increasingly popular, Nielsen Sports would like to offer a brief overview of Germany’s top events: The biggest event in terms of participants is the BMW Berlin Marathon with almost 50,000 participants. It’s followed by the Frankfurt and Hamburg Marathon with 10,000 participants each. Most prestigious triathlon events are

[47] DFB (2022). Nachhaltigkeit: Leitbild zur UEFA EURO 2024 veröffentlicht. Retrieved from: https://www.dfb.de/news/detail/nachhaltigkeit-leitbild-zur-uefa-euro-2024-veroeffentlicht-242266/

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the Challenge Roth and the Ironman European Championship Frankfurt, both carried out over the iconic triathlon long-distance with about 3,500 to 4,000 participants. The Deutschland Tour is Germany's most important multi-stage road bicycle race but cannot be compared to international iconic road cycling tours.

Another event that has generated excessive interest in Germany are NFL games hosted by a German sports club. The NFL contractually agreed to outsource NFL games until at least 2025 to Germany. The first event held in November 2022 was a great success for both NFL teams and the German host FC Bayern and Allianz Arena. The organizers could have sold more than three million tickets for the game - more than 40 times the capacity of the stadium. As the NFL is highly affine for digital developments, it is likely that German sports rights holders will learn from those games and adapt initiatives to their domestic market.

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4.4. Opportunities & Threats

The numbers above indicate that football is financially the best positioned compared to other sports in Germany. For that reason, football offers by far the greatest economic potential and should be listed top in terms of ability in digital investments. Most rights holders in Germany in other sports have only very limited financial resources and must intensively budget and calculate to bring black numbers.

At the same time, it's important to keep in mind that the German sports system works in fixed structures. Due to strong hierarchies and bureaucratic processes, the system is not prepared for agile transformation processes and cannot be named dynamic or innovative. However, PwC has published the trends and drivers of the German sports industry in its Sports Survey 2021, pointing out the most important transformation processes. Even before the pandemic, sustainable digital transformations and fan experience were identified as the big topics. In the near future, PwC highlights e-sports, fan experience solutions, new investor and financing concepts, building digital ecosystems, innovation management and long-term sustainable thinking (ESG) as the top trends of the German sports market.[48]

This transformation process is an opportunity for all of those who have understood the importance of digitalization in German sports. First movers will benefit from cost savings and new revenue streams. New opportunities are opening in the battle for the fans' attention. Sports with a lower media coverage can thus get new chances to reach fans and get a piece of the pie. Consultancies and service providers that can develop strategies that are fed with implementation support are able to support the German sports system and profit likewise. On the other hand, the mentioned developments bear the risk that sports rights holders may not catch up. Long-term investments have to be considered carefully, and not every sports right holder has the internal know-how to differentiate between necessary and unnecessary investments and to drive them forward. Lost or no investments can be the result.

The fans also drive opportunities and threats of development. With a few exceptions - such as e-sports - fans do not regard professional sports as a part of their entertainment program but rather as a social asset. Almost every football club positions itself as a "traditional club". This approach excludes the active promotion of innovation and fans react sensitively to changes. Football clubs are mindful of "over-commercialization" to not frighten fans off and act rather cautiously. Only a few exceptions, such as RB Leipzig, TSG 1899 Hoffenheim or VfL Wolfsburg have positioned themselves differently due to their investor history. The different approach to commercialization is clearly recognizable here.

For financial reasons, Nielsen Sports recommends focusing on federations and clubs that have the financial capacity to invest in digital solutions. In addition, decision-making processes in sports organizations are often slow and hierarchical structures should be respected. Dutch technology companies should be prepared and not waste too much effort on sports rights holders who do not have the financial capacity to invest.

[48] PwC (2021). PwC's Sports Survey 2021 - Deutsche Ausgabe. Retrieved from: https://www.pwc.de/de/technologie-medien-und-telekommunikation/sport/pwc-sports-survey-2021-deutsche-ausgabe.pdf

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5. Digitalization in the German Sports Market

The following chapters present the results of an analysis of the state of digitalization in the German sports industry, including a framework for defining its impact and an examination of key strategies, organizational structures, collaboration efforts, technology and innovation, the competitive landscape, and relevant digital use cases. The aim is to provide Dutch tech companies with an initial understanding of the German sports market and recommendations for overcoming the associated challenges.

Digitalization in sports organizations is a comprehensive and holistic concept that refers to all touchpoints in the ecosystem with fans, partners, and customers. There is also a distinction between core and non-core business. In a broader, widely accepted perspective, digitalization in sports organizations is the recognition and use of digital technologies, aligning all areas of the business with digital technologies and technological advances to optimize existing processes. Second, digitalization means leveraging digital technologies and platforms and delivering relevant content to fans at the right time to enhance the fan experience. Third, digitalization for sports organizations that have a more advanced understanding are using digitalization specifically in a way to establish new business models by exploring new digital products and services.

As the sports industry continues to evolve, digitalization has emerged as a critical driver of growth and innovation. Most sports organizations recognize the importance of incorporating digital technologies into their operations, seeing it as a means to transform internal processes, optimize workflows, and free up valuable resources. However, the approach and level of investment in digitalization varies greatly between different organizations.

For traditional sports organizations with a dedicated fanbase, such as St. Pauli or VfL Bochum, a key priority is maintaining fan engagement and loyalty. These organizations are more cautious about embracing digitalization and prefer to use digital technologies to meet the needs of different stakeholders, including fans, partners, and customers. They view digitalization primarily as a tool for communication and marketing, rather than a broader concept that affects all aspects of their operations.

On the other hand, there are those organizations that have embraced digitalization as a means to enhance their offerings and improve the overall customer experience. These organizations, including the German Tennis Federation (DTB), HBL, and Eintracht Frankfurt, see digitalization as a holistic concept that touches all touch points in their ecosystem and provides opportunities to explore new business models and create added value for fans, partners, and customers alike.

So what? We recommend a tailored approach when engaging with sports organizations on the topic of digitalization. It is important to understand their definition and perception of the term, to establish a common viewpoint and to facilitate a productive dialogue. Defining digital also provides an opportunity to broaden perspectives and dispel misconceptions.

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5.1. Status quo and Challenges

The following chapter describes the status quo of digitalization in the German sports market. It also looks at organizational structures in relation to digitalization. Furthermore, it describes the internal technical, financial and human resources and competencies of German sport organizations as well as the external cooperations with regard to digitalization issues. The aim is to shed light on the challenges faced by German sports organizations to prepare Dutch technology companies for a possible market entry and to identify specific entry points.

This assessment of the current state of digitalization in sports as “below average to moderate” is supported by several factors, including but not limited to a lack of a long-term (digital) strategy, and resources for digitalization, such as money, dedicated departments with digital knowledge or advanced technical infrastructure. The importance of technology in the sports industry cannot be overstated, yet its full potential remains untapped due to a lack of long-term business strategy and a focus on short-term sports success, mostly at the executive level. Decision makers in sports organizations need to have the knowledge and expertise to make informed decisions about technology investments. Many sports organizations have inadvertently overlooked investments in digitalization for a variety of reasons. They may not have recognized its potential, lacked internal expertise, had limited resources for digital experts, or limited their digital efforts to social media communications or e-sports projects. This failure to invest in technology has resulted in missed opportunities for these sports rights holders to reach their full potential and remain competitive in an increasingly digital world.

The lack of a comprehensive, long-term digital strategy is a major contributing factor. Instead of taking a long-term approach to digital transformation, most sports organizations continue to adopt a short-term mindset, resulting in a fragmented approach to digital solutions. This lack of a holistic, long-term digital strategy has led in many cases to sub-optimal investments that prioritize short-term initiatives over transforming into a digital business organization. Instead of addressing the root cause and implementing long-term digitalization projects that will deliver a medium to long-term return on investment, resources are being allocated to quick and short-term fixes, such as "Wi-Fi in Block 3," instead of, for example, developing a comprehensive customer relationship management (CRM) system. Our findings suggest that most sports clubs do not have a holistic digital business strategy. This is consistent with other research suggesting that the sports industry tends to respond to IT and digital projects on an ad hoc basis, rather than pursuing a holistic strategy.[49] However, some sports organizations are leading the way. For example, the DFL and Bundesliga club Eintracht Frankfurt have created digital subsidiaries, while the German Tennis Association recognized the need for a comprehensive CRM system and began working on it holistically, rolling it out to all of its member associations and tennis clubs. Other organizations, such as football clubs FC Bayern München, 1. FC Köln, VfB Stuttgart, and the ice hockey club Kölner Haie, have held hackathons or digital summits to gather new ideas about digitalization and are open to new ideas.

Another reason is that in Germany, sports are always at the center of attention for both rights holders and fans, which leads to prioritized investment in the sport itself. While other cultures enjoy sports as an entertainment product, the German sporting tradition focuses on the sporting result. The battle, the excitement, the emotion, the joy and the pain are important elements of why fans watch the game. As a result, German sports rights holders tend to invest in the sport first and the business second. This makes sports rights holders highly dependent on sporting success. Only a few, like the aforementioned DFL or Eintracht Frankfurt, have realized that it is advantageous to build a stable business around the sport to be able to act more independently of victory or defeat. For many stakeholders in sports, the short-term opportunity to make a name for themselves and to quickly solve a problem in the industry through use cases was in the foreground.

[49] Kawohl et al. (2020). Digitale Innovationen, Geschäftsmodelle und Ökosysteme in der Fußballbundesliga. Retrieved from: https://www.odgersberndtson.com/media/9288/studie-digitale-innovationen-geschaeftsmodelle-und-oekosysteme-in-der-fussballbundesliga.pdf

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A good example of this in recent years has been the hype around blockchain and NFT, where most sports organizations saw short-term gains but did not grasp the real benefits of the technology and therefore had no intention of working on long-term strategies. It cannot be emphasized enough that German sports rights holders are usually the first to invest in sports development. For them, the digitalization is a new business field that must be well argued to be prioritized over sports. Investments in digitalization will always result in a reduced budget for other business units. Well-prepared business plans and a promising return on investment can increase the willingness to invest. Projects with short-term ROI will be easier to get approved.

In addition to finances, the lack of know-how is a major challenge that manifests itself at various levels. The problem of having the right people affects all levels, from management to operations. Because digitalization is still a comparably new and dynamic thematic complex, there is often a lack of expertise. Know-how can be bought by hiring new staff, upskilling existing staff, or hiring agencies. Either way, it costs money, and in today's job market, talented young people are in high demand and the salary level in the sports business is usually below average. Being a sports club in an attractive city and being able to offer additional benefits will help in recruiting. Since the digital transformation affects different business units, it should be closely connected to the top management. The prerequisite for such a structure is that top management has recognized digitalization as an issue. The establishment of digitalization therefore depends to a large extent on having digitally minded people in decision-making positions. Just as club sports have a long tradition in Germany, management structures also have a traditional character. People tend to stick with what has worked in the past. Innovations have to be presented convincingly. The problem of finding the right people affects all levels, from management to implementation. Because digitalization is still a new topic, there is often a lack of expertise. Know-how can be bought by hiring new staff, upgrading existing staff, or hiring agencies. Either way, it costs money, and in today's job market, talented young people are in high demand. Being a sports club in an attractive city and being able to offer additional benefits will help in recruiting.

There is also a fundamental lack of understanding of digitalization and data (analytics), both in terms of athletes and, in particular, fan and customer data. While the digitalization of the core business - sporting success - continues to progress, for example through the continuous tracking and analysis of athletes during training and matches, the same approach is often still lacking in the collection, consolidation and analysis of fan and customer data. This is true for most and all business areas such as merchandising, ticketing, marketing, etc. Only with the introduction of General Data Protection (GDPR or AVG in Dutch) and the fear of fines has the willingness to invest in systems and structures increased. However, there are exceptions to the rule - some sports leagues, associations, and clubs, such as the German Ski Federation, and the DFL have recognized the need for comprehensive data systems and are already investing in them.

In addition, German sports organizations are constantly challenged by outdated organizational structures and a lack of in-house expertise, which complicates the ability of organizations to drive successful digital transformation initiatives. Decisions are very much made from the top down, and due to the age of the decision-makers, knowledge and affinity to digital is often lacking at this level. The findings show that existing structures and technical systems are generally inhibiting innovation. As a result, there are interface problems due to the lack of interlocking systems - there is no holistic strategy from which to design the system landscape. Digitalization is not yet very advanced, as many sport organizations are still busy optimizing basic legacy issues, such as isolated digital ticketing systems or the largely cashless payment at the stadium.

Another reason for the slow progress of digitalization in sports is that many rights holders in sports have not evolved their analog structures, have not maintained existing IT systems, or have not introduced new digital systems, but have allowed them to grow into isolated solutions and disjointed systems. The continued advance of digital technologies has created an urgent need for sports organizations to simplify and unify their systems and structures.

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Over the past decade, many sports organizations have grown into mid-sized companies with complex and fragmented structures, making it increasingly difficult for them to remain agile and adaptable to the ongoing changes brought about by digitalization. As a result, their management has become increasingly complex, and their systems and structures have stagnated. This has led to the emergence of siloed solutions, non-compliant systems, and data silos, further complicating the goal of creating a lean and agile organization. Because of these entrenched structures, sports organizations have struggled to effectively integrate and manage their data, resulting in information silos that impede their ability to continuously improve and optimize processes across the organization. This undermines the very essence of a lean organization, which relies on a continuous improvement process to harmonize processes and ensure long-term competitiveness. One exception is certainly the DFL, which is a role model when it comes to structures and clear responsibilities. It also has digital expertise and thinks holistically (for its area of responsibility). On the other hand, we found that the smaller the organizations and budgets in sports, such as national or regional sports associations, the more likely they are to still use analog systems such as printed lists or manual Excel-to-Excel systems.

Our findings show that most sports organizations have a decentralized digital organization. Although it is important to embed digital at the top to ensure an integrated approach across all stakeholders, almost no sports organization has a Chief Digital Officer. There are different approaches among German sports organizations on how best to organize digitalization within an organization. While some sport organizations have established a central office or department responsible for digital transformation, others prefer a decentralized structure where digitalization projects are located in the respective departments. We also find that outsourcing the digitalization process was an option for sports organizations ("Zero IT"), e.g., St. Pauli or VFL Wolfsburg, but this has shifted to at least 1st level support. The majority of German sports clubs do not have a dedicated digital department or budget within their organization. Instead, digitalization projects are implemented by different business units within the organization that compete with each other. Depending on the cost, decisions about digitalization projects are made by the presidency and are often based on external factors such as sponsors and their ability to support the digitalization project financially or otherwise. Likewise, some major leagues do not have dedicated digitalization departments, such as the BBL or DEL, and instead assign digitalization projects to departments based on their theme or have only one or two dedicated digital employees. These leagues are too small and budget constrained to create dedicated digital departments and cannot leverage synergies with clubs within their league. Similarly, other rights holders, as overarching rights holders for their sport, have only a small overall project team and therefore no dedicated digital department.

On the other hand, the DFL subsidiary DFL Digital Sports and the HBL are positive examples. Digital Sports is primarily active in the area of digital content and uses its expertise to create and distribute content for its various platform offerings with a team of more than 60 full-time employees. Although the main focus is on content, other departments are also dedicated to digital topics such as Technology, Visual Design, Business Analytics & Operations, and Platforms & Innovations. The HBL has just created a dedicated digital department to coordinate digital projects within the league and its organization. It is responsible for the collection, development, processing and visualization of sports data and, in particular, the development of new digital business models. The decision on how to approach digitalization is influenced by several factors, such as the size and structure of the organization, the availability of internal expertise, and the goals of the digitalization. The decentralized form of digitalization is often adopted due to its organic growth and minimal effort required for implementation. Although the decentralized form is the most common, it may not be the preferred option among organizations. The lack of prioritization of digitalization at the management level has likely prevented the recognition of the benefits of the centralized approach.

Looking outside the organizations, the results show several examples of collaboration with sponsorship partners. Most are based on barter deal sponsorships, or the partner even has to pay to bring their digital product or service to that particular sports club.

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A barter deal sponsorship is a type of sponsorship arrangement in which a company provides a product or service to a sports team or event in exchange for promotional opportunities, rather than paying cash. Our findings suggest that clubs are actually expecting the former or the latter to do business, as they are not prioritizing digitalization in their budgets, which are extremely limited. Our findings also suggest that clubs are missing a huge opportunity and should work closely with external partners, as their internal IT project management is mostly not competent enough. Some clubs indicate that they recognize the need for external services related to IT and digitalization, but they are aware that these companies may also be working for their competitors.

Digital collaborations between rights owners, such as different leagues working together or digital collaborations between clubs within their sport, are rare in the German sports market. This is mainly due to two factors: 1. sporting and economic competition, 2. the fear of making oneself vulnerable to the fans and "collaborating with the enemy". Also, a deep silo mentality and a lack of holistic strategies and uniform data standards in the professional structures of sports. For example, one of the major sports leagues in Germany had proposed working groups to improve cooperation, but there are still tendencies toward silo thinking among the clubs. The league proposed creating a data warehouse for opt-in newsletters, but ultimately the league surrendered to the clubs. Only a small number of clubs were interested in the possibility of linking the league's newsletter to their favorite club's newsletter in a database. However, it is also apparent that the attitude towards more cooperation is slowly changing, as the clubs have realized that synergies can be used in economic matters without having a negative impact on the sporting competition situation within the league and among the fans with other clubs. However, some Bundesliga clubs will favor individual solutions as these manifest their economic (and related sporting) position in the league, e.g., FC Bayern Munich.

When it comes to working with other leagues and sports, experiences vary. Some cross-sport leagues and clubs have been successful in working together, while others have had difficulties. It was even mentioned that there is a merger in the business sector, where it was recognized that competition takes place on the field and that synergies can be used in business issues without suffering any disadvantages. However, the clubs do exchange information about which vendors and technologies the "competing" clubs use. But this is the smallest common ground. Deeper cooperation is rare and not really enforced. There are also problems with internal cooperation within the clubs. For example, some IT staff or digital officers do not have a voice within the club and cannot assert themselves and their digital ideas and projects against the sports or other economic areas of the club. This may be due to a lack of digital and project management skills.

It can be concluded that the status quo of digitalization in the German sports market is challenging, with a level of digitalization between rudimentary and sophisticated per individual rights holder. At the same time, it shows that there is still a lot of room for development and improvement. The sports industry itself supports this statement: Based on a quantitative assessment of the status quo of digitalization, the sports industry rated itself on a scale of 1-10, with handball, basketball and ice hockey at a similar level (4.0 out of 10.0). Comparing this to football, which scored an average of 6.0, suggests that football is above average in terms of digitalization and all other sports. However, these results also suggest that it is not particularly good or outstanding. The only sport that really stands out is e-sports, which is at the high end with an average of 9.5 points. It is important to note that these ratings are subjective and depend on the individuals who gave them, so they cannot be taken as a general rule, but rather as an indication as our overall results point to the same conclusion. The current state of digitalization in sports shows that the sports industry needs to further establish a good foundation for digitalization in terms of a digital strategy, dedicated digital budgets, and know-how before implementing advanced technologies such as AR, VR, and blockchain.

This means that there is a lot of potential and room for improvement, and that sports organizations are in need of external support for knowledge transfer. This creates opportunities for professional providers of digital services and products.

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The digitalization process in the German sports industry faces challenges such as inadequate infrastructure and systems, a lack of investment in technology, limited digital know-how, and a lack of understanding of the importance of data. There is a disparity in how sports organizations approach digitalization, with few having a dedicated digital department and most sports organizations not having a dedicated digital person. Most organizations do not have a comprehensive digital strategy and tend to approach IT and digital projects reactively rather than proactively. Collaboration between clubs and other industry players is limited, and there are also internal IT and digital challenges. Clubs are missing opportunities to collaborate with external partners due to budget constraints and fear of working with potential competitors.

So what? Based on our findings, Dutch tech companies approaching the German sports business should be aware of the challenges of collaboration and digitalization within the industry, such as the lack of a (digital) strategy and resources for digitalization, such as money, dedicated departments with digital knowledge or advanced technical infrastructure. They might want to consider offering solutions that specifically address these challenges, such as providing expertise in digital collaboration strategy development and IT project management. Vendors need to be prepared to offer flexible and creative sponsorship or partnership arrangements that fit the budget constraints of clubs. Dutch technology companies should show decision-makers why it makes sense to focus on longer-term digitalization projects rather than short-term, quick fixes and ROIs, and outline the added value.

Dutch tech companies must expect being in contact with different stakeholders within a single sports organization that are not aligned in terms of digitalization to address their digital product or service. Based on the information provided, the German sports business has a decentralized approach to digitalization, with many organizations relying on external service providers to build internal expertise. To successfully enter the German sports market, Dutch technology companies should consider adopting a similar approach. Knowledge transfer is important not only as a selling point, but also to build a long-term relationship with peers. In the short term, it serves to ensure the success of the project and thus to build a long-term customer relationship. In other words, knowledge transfer is essential, but it cannot be priced directly; it serves as an investment in the relationship and this can sometimes even build the necessary technically skilled contact person needed to sell the service. Rather, it is essential to offer missing knowledge in the sports sector, for example through (free) training in digitalization, to position oneself as a knowledge carrier, expert and trusted advisor in the long term. Of course, knowledge transfer can also be actively emphasized as a sales argument. Dutch tech companies should establish themselves as digital experts, create lock-in effects and market their services to relevant departments within sports organizations. This should include providing expertise and knowledge in areas such as data governance, data management, data analytics and IT security, which are becoming increasingly important for sports clubs. This will help you build long-term relationships with clubs and increase your chances of success in German sports.

Dutch tech companies should prepare themselves for the fact that German sports organizations are not nearly as well positioned digitally as their Dutch counterparts, and the need for training and knowledge transfer is there. In principle, free training, workshops, master classes should be included in the acquisition or marketing costs to a certain percentage, even for SMEs. Of course, it depends very much on the size, specialization and maturity of the Dutch tech company and the product or service it offers. Depending on the offering, it is not enough to sell a solution to the customer; it must be embedded in the organization in a sustainable way. This can be done, for example, by providing (free) training or by regularly exchanging information with the customer.

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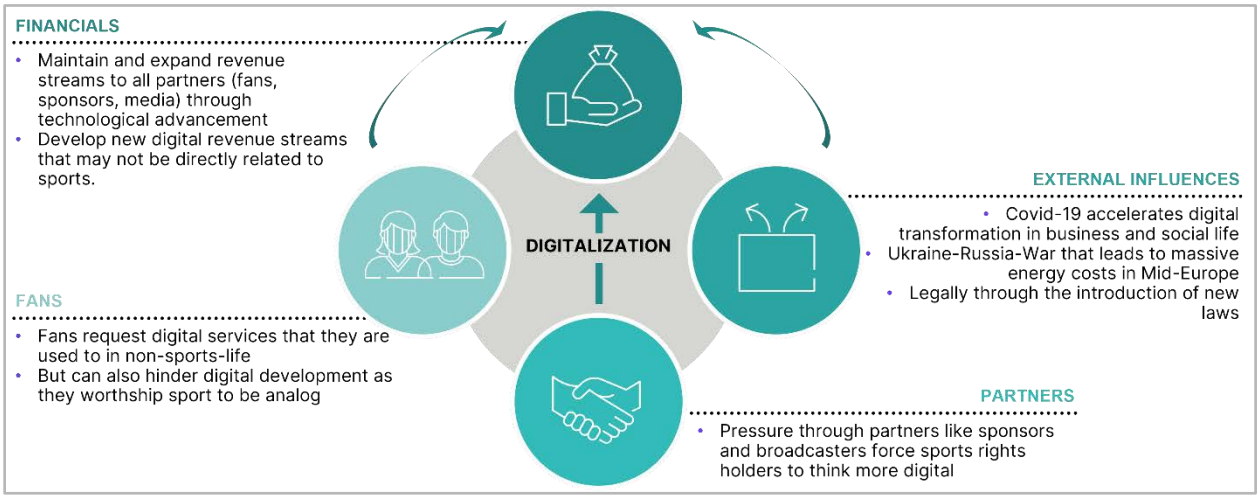
5.2. Innovation Drivers

Nielsen Sports' research shows that while some sports rights holders see digitization as an obligation, it's also seen as an opportunity, especially for smaller associations or clubs. Cost savings through digital processes, combined with new ways of addressing fans and members make these rights holders hopeful of driving increased awareness and therefore, revenues. By getting to know the fan and offering specified added value, digitalization can help to increase reach. Thereby, smaller sports organizations may benefit from digitalization, closing the gap with larger football clubs in terms of reach. Digitalization can offer new opportunities for revenue generation and fan engagement. However, larger football clubs may have a financial cushion and may not feel the pressure to digitalize as urgently as smaller organizations. Regardless of size, all sports organizations can benefit from exploring and implementing digital solutions to stay relevant and competitive in the ever-evolving sports industry.

Investments in digital infrastructure must be driven by internal or external needs. Sports rights holders won't invest in digitalization just because industries other than sports and social life are evolving and becoming more digital. Experts have named several major drivers such as financial reasons, legal reasons, COVID-19, pressure from partners and fans and minor drivers like general development in business and social life, competitors, or sustainability.

Innovation Drivers for Digitalization in Sport Organizations [50]



Financial drivers are the most influential ones in terms of digitalization. This is why money is only spent if an investment presents a business case, preferably with a short-term amortization period. If it is longer, suppliers must think about how to shorten it, e.g., through incremental expansion, value in kind (VIK), financing by partners of the rights holder, etc. Digitalization offers clubs an opportunity to build new revenue streams. This also includes the definition of fan loyalty and fan acquisition as top business objectives. Right holders compete for the attention and investment of fans not only with other sports but also with other entertainment providers. Digital media can be the gateway to maintain or approach new fans but can also be an obstacle as German sports fans are very sensitive to over-commercialization.

Most clubs do not invest in digitalization without financial pressure. As long as clubs are doing well financially, business models in German sports are often not reconsidered. The financial need must be great enough for innovative thinking and digitalization strategies to be pursued. Particularly in football clubs the pressure of suffering is often not yet high enough for them to engage in new ways. Media rights sales often provide sufficient financial resources to make the clubs appear sluggish. Still, the pandemic is blamed for the current drop in sales. Clubs hope that fans will return to the stadium as before COVID-19 broke out.

[50] Nielsen Sports (2023). Innovationdrivers.

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After the initial skepticism, German sports are currently in a boom phase due to "catch-up effects". However, it's doubtful that ticketing sales will remain at such a high level. The economic situation of many people is deteriorating and spendings on leisure will have to be cut back. Therefore, widening and maintaining the fan base even in difficult times is much more important than ever. When clubs finally take the initiative to open additional revenue streams, they often do not have the financial resources that are needed. As a result, the internal arguments for budgets for digitalization projects becomes increasingly difficult. Especially since these financial resources are no longer available to other departments, such as the sports itself. Another challenge in terms of financing is the often-short-term planned return-on-investment strategy in German sports clubs. Here, a differentiation between kinds of rights holders and sports is important. While it seems to Nielsen Sports that top sports federations and leagues often have more long-term planning, clubs tend to have an incredibly short-term way of thinking. Nielsen Sports assumes that a reason therefore is the fast-paced club business vs. a slower federation's business that has its reasons in German sports structures. Club managers strive for short-term success and monetization.

Large-scale digitalization projects require both, budget and time. As sports rights holders are limited in both cases, investments in digital implementations are difficult to argue. Having a solid business plan with a clear financial return-on-investment is essential for success in the sports industry, especially for digital start-ups and agencies. This should be a top priority when developing a proposal or pitch. It helps to ensure that the investment made is not only effective, but also profitable in the long run and sports rights holders will more likely agree on it.

Other drivers for digitalization are external circumstances. In 2016, the EU has agreed on a new law regarding data protection regulation. The GDPR has been mandatory in Germany since 2018 for. According to the law, stricter regulations must apply regarding data collection and processing of natural persons. As a result, sports clubs must also be able to better coordinate data from their stakeholders such as athletes, members, and fans. Breaches of the law will cause substantial fines. For many clubs, the GDPR has been the catalyst to rethink their data systems. This includes the transfer of manual data to digital data, the consolidation of data collected by different departments, and the beginning of CRM systems.

In 2020 the COVID-19 pandemic broke out and forced people to stay at their homes. Sports was affected in multiple ways as employees couldn't come to work, athletes couldn't train and competitions - the product to be sold - were forbidden. Even when competitions have been allowed under a list of restrictions, fans were not able to attend. Therefore, revenue streams from on-site experiences, such as ticketing, hospitality, catering, promotion etc. were still frozen. Not being able to offer their traditional product on the market, sports rights holders had to find substitutes and - like everyone else - a way to maintain business operations despite employees sitting at home. This way, COVID-19 has accelerated the modernization of IT infrastructure in the German sports landscape. Equipping employees with modern hardware, establishment of digital communication channels, digitalization of documents, work files and processes (e.g., payroll), access to server structures are just a few features to be named.

Besides internal business processes, sports had to deal with the breakaway of the core business during COVID-19. With a collapse in revenues, sport rights holders had to find new revenue streams through digitalization of its core business. As people couldn't be reached on traditional channels, digital approaches, i.e. expansion of social media communication or the establishment of social communities, became standard. Furthermore, COVID-19 catalyzed the creation of digital substitutes, such as digital participation in sporting events, etc. The little willingness to invest in digitalization before COVID-19, e.g. due to financial constraints, now became essential to keep business operations running. In addition, some clubs were able to consciously use the event-free time to initiate strategic digitalization projects for which there is normally little time besides the day-to-day business.

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Also, the war between Ukraine and Russia, which has led to an energy crisis in Europe and significant inflation rates in Germany, put pressure on sports rights holders. Some describe the energy crisis as more substantial than the COVID crisis. In addition to the increase in the cost of training and competitions, sponsors are also facing price increases. The willingness to invest in sponsorship is declining, and sponsors are not lining up. This new bottleneck is forcing sports rights holders to access new sources of revenue and meet sponsors' needs. Nielsen Sports is estimating that the German sports industry will experience the full consequences of the crisis in 2023, when invoices must be paid and negotiations with partners and sponsors take place. The same could be true for private individuals, who may reduce their spending on leisure activities, including sports-related expenses such as tickets, merchandise, and other similar items. This means that the crisis could lead to a decrease in consumer demand for these types of products and services, which could negatively impact the overall sports industry.

Sponsors, broadcasters, and other branches put external pressure on sports associations and clubs in terms of digital development. Sponsors demand digital content from clubs and leagues. Many sponsors act and communicate more digitally than the professional sport sector itself. To make rights packages valuable, sports rights holders must create digital content. Experts complain that sponsorship in Germany has not evolved since the 1990s. The same content is offered as 20-30 years ago, while business models around sports have evolved since then. Without digital content development, rights packages will lose attractiveness to sponsors. Sponsors will not be willing to pay the same prices for sponsorship services. For this reason, some clubs and associations are strongly committed to setting up their own department for generating digital content, separating this topic from traditional press relations. Besides financial pressure, some clubs are implementing digitalization projects in cooperation with their sponsors. A favored idea is to carry it out as part of a VIK deal. Prominent examples can be found in the implementation of IT / data solutions of clubs of Germany's first football division, like i.e. TSG Hoffenheim with SAP or FC Bayern München with Adope.

Also, Media partners are interested in creating revenues with sports. Therefore, they investigate user behavior of fans and create business models to provide access to sports. Media partners pursue different approaches to generating revenue, like advertising, subscribers, combinations of both, etc. High fragmentation of providers on the market drives constant competition and innovation. As a result, media partners develop their products continuously and offer digital solutions. Sports rights holders benefit and get presented digital communication channels by media providers. The high level of market fragmentation in turn offers opportunities for fan-oriented service providers. Fan-focused offerings can be the solution here. Fans want low-cost access to sports while the subscription to many Pay TV products leads to high expenses. This causes either illegal product piracy or the loss of the fan. In the long term, the sport is diminished and loses its fan base. Platforms like onefootball.com have understood that dilemma and provide pay-per-view access to specific matches. Thereby, fans don’t have to agree on a long-term contractual obligation to experience content. Nielsen Sport expects this example to have an impact on other sports and on the sports media world.

While sponsors and media companies are business partners connected directly to the sport, also foreign business can indirectly drive digitalization of German Sports. General digitalization in other areas of life and the economy is being transported to sports as employees and fans request those services also from sports and digital business processes have shown to be more economical. But also branch internal competitors are driving digitalization. If observations show that a competitor is successful with digital products - either on the playing field or economically - others will copy it and the product will thus come into mass usage.

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Another essential catalyst for digital innovation in sports are the fans. Fans are an essential part of the revenue stream and finally paying the sports business. Experts emphasize that the fan makes the decision about the long-term establishment of a new digital product. It is therefore important to know the user behavior of target groups and to take the fan perspective. Associations must gain fan insights and process the data obtained. CRM systems help with this coordinative task. Only those who provide a product that creates added value for the fan will succeed in meeting their ROI goals. In regard to internationalization strategies (that may be primarily relevant for the bigger Bundesliga clubs), the collection of fan insights and digitalization play a significant role. This means that knowing the preferences and behaviors of fans, and leveraging digital technology, are important factors for successful international expansion. By collecting and analyzing data about their fans, clubs can tailor their strategies to better meet the needs and interests of their target audience, and digital technology can help them reach a wider, global audience. In other words, if a club wants to be successful on an international level, it will have to embrace digital technology and engagement strategies. This is seen as necessary for building and maintaining a fanbase, and there is less concern about criticism of over-commercialization in DFL's international core markets US and China, where these attitudes are not prevalent.

An additional driver of digitalization is the increasing awareness for sustainability by both fans and sponsors. The design of sustainable processes is supported by digitalization. The strive for sustainable behavior therefore also boosts digitalization processes. The Bundesliga and 2. Bundesliga were the first major professional football leagues to include a mandatory sustainability policy in their licensing regulations. In the future, clubs will be required to demonstrate a sustainability strategy and an environmental strategy. This will include annual measurements of water use, wastewater production and energy consumption, and a mobility and transportation analysis. Digitalization is needed to meet these expectations and requirements. [51] Nielsen sports expect other leagues or federations to implement similar standards for sustainability with football as their role model. However, efforts in sustainability deal with similar challenges like digitalization: lack of expertise and knowledge among federations and clubs, associated high financial expenses for external personnel and of course in designated sustainability projects and - with few exceptions - no prospect of direct monetization. Therefore, sustainability is a driver for digitalization, albeit a minor one.

In summary, Nielsen Sports has found that German sports associations and clubs need clear drivers for digitalization. Digitalization is not a native sports topic and therefore not prioritized in the mindsets. German sport rights holders will always tend to invest in sports first. Digitalization is only an add-on, but sports development is dependent on financial possibilities of a club. Therefore, the investments must be determined by financial needs and opportunities. Financing is also the biggest challenge of digitalization. Outdated, short-term and arrogant thinking in sports clubs are slowing down digital development.

So what? In the view of Nielsen Sports, it's essential for Dutch technology companies to present convincing business cases that offer a short amortization span or include alternative financing options (VIK, cross-financing via club partners, creation of new sponsorship assets) when approaching German sports rights holders. While doing so, sports rights holders need to be aware that funding through collaborations to utilize synergies between different rights holders is rarely an option. The competition between teams happens on and off the pitch, the usage of white label solutions is not welcome.

It's important to show potential clients credible return-on-investment possibilities, primarily in the short term, but also in the long term. The market currently sees too many showcases and pilots that do not materialize in the long term and across multiple rights holders. Technology companies should see themselves as partners, working with their clients to meet needs and reduce barriers. Nielsen Sports recommends also approaching rights holders' partners as an alternate option.

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[51] DFL (2022). Nachhaltikeitsrichtlinie. Retrieved from: https://media.dfl.de/sites/2/2022/06/Anhang-XIV-zur-LO-2022-05-31-Stand.pdf

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As they may have better digital skills and more financial resources, Nielsen Sports expects them to be more open to innovative digital solutions.At the same time, rights owners may be more open to implementations requested by their sponsors or media partners to secure revenue. Alternatively, technology companies can build partnerships directly with a sponsor or media partner that add value through digital innovation. Thus, Dutch tech companies could partner up directly with a sponsor and get paid directly from the sponsor for digital services, or a sponsor can make the implementation of digital solutions a requirement for maintaining or increasing their support for the sports platform. This indicates the importance of digitalization in the eyes of the partner and shows that it is seen as a necessary component of modern sports engagement and sponsorship. Therefore, Nielsen Sports sees commercial potential in solutions that also benefit the sponsor and/or media partner.

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5.3. Technologies and Development

Based on the given definition of digitalization, it is grouped into five categories, depending on the stakeholders involved. Internal stakeholders are the business department and sports, while external stakeholders are distinguished into media and fans, and sponsors. For a better overview of the five categories, see the following:

Internal Stakeholders:

- 1. Employees and Internal Business Structures
- 2. Sports and Athletes

External Stakeholders:

- 3. Media and Digital Infrastructure
- 4. Fans and External Communication
- 5. Sponsors and Partners

1. Employees and Internal Business Structures
Internal digitalization focuses mostly on the implementation of digital processes in daily work. Avoiding too much paperwork or manual transfer of information and to ease the internal communication are the goals. Employees are supposed to be relieved of administrative duties to be able to concentrate on their actual job.

IT infrastructure - hardware, software, and their connection - in federations, leagues and clubs is often not state-of-the-art and not all the federations and clubs have an in-house IT department yet. Services that are in the responsibility of IT departments, are bought from external providers. This carries the risk that hardware or software that was renewed some time ago is not maintained and updated accordingly. As nobody carries the overall responsibility, holes are patched up when needed but there is no holistic rethinking of the entire system. There is a lack of a unified, strategic approach to digitalization, with a focus on maintaining the basic functionality of the systems and processes involved. Others have ongoing contracts with external service providers, helping them to set-up a modern IT infrastructure but not delivering tailormade solutions. Nielsen Sports has observed that sports rights holders tend to work in silos. Accordingly, digitalization projects are also often tackled by individuals as needed - possibly in collaboration with external partners. However, the holistic view is lacking.

Sports rights holders are in a process of digitizing their internal processes. Often driven by COVID-19, federations, leagues, and clubs are still working on rethinking and redesigning internal workflows. Compared to other branches, German sports rights holders have the feeling that they are behind the development and started the process of digitalization later than others.

A key element of that progress is the digitalization of the working process to allow for smooth workflows and collaboration. This may include the provision of modern hardware, but also of required software solutions. Simplifying work processes to enable employees to work efficiently and effectively should be a top priority here. Nielsen Sports notes that clubs and associations often lack intelligent software solutions, such as unified server structures or project management tools that could make processes more efficient. Instead, manual and even paper-based work is widely used.

A major need that Nielsen Sports recognizes in this context are databases. Many clubs lack a common database system to store all data in one place. The following analysis will show that the set-up of a solid data-warehouse is key for most right holders - for internal and external issues.

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This chapter concentrates on internal needs. It is of course conceivable to set up a common database that links internal and external data. However, this should not be misinterpreted at this point.

A lot of German sports rights holders have defined the creation of a well-running data system as one of their top short-term goals. Saying this, rights holders are often still working on creating adequate data platforms. Only a few are already using well-established databases for the implementation of further features. Nielsen Sports observes that the market often works on solutions selectively. A holistically conceived data architecture that covers all business needs and ideally connects them with each other is missing. This results in parallel systems within a company, which are also often purchased from different service providers. This usually drives costs and means that systems cannot simply be merged if required due to differing technical interfaces. Ultimately, sports rights holders are faced with skyrocketing costs that no one can afford, while driving down a dead-end road. The willingness to invest in further technological innovation decreases rapidly due to those bad experiences. This means that the large investments made in previous systems and processes can be a barrier to further investment in digitalization. The rights holders may not want to make additional investments, as they may feel that they have already spent a significant amount of money on systems that will now be discontinued. In this case, providers that offer systems with high compatibility and that can integrate easily with existing systems have a competitive advantage, as they can help minimize the cost and disruption associated with transitioning to a new digital system. Utilization potential is wasted. For this reason, from a Nielsen Sports' perspective, it is key to develop holistic system architectures and to implement those successively. Uniting the various internal needs can be named as a main challenge in terms of digital transformation.

2. Sports and Athletes

Nielsen Sports' research focuses on digital transformation in the business operation of the German sports business. Nevertheless, Nielsen Sports likes to provide as much as possible a holistic picture of the German sports market. The following is a brief excursion of processes around performance tracking and athlete services that are also transformed into digital services.

In the German sports market, the sporting result - win or lose - is perceived as the priority. The win is the top goal of federations and clubs. Based on this mindset, it is understandable why investments in sports and athletes' development are often prioritized. Some rights holders emphasize the importance of a sports data warehouse to improve the quality of training or prevent injuries, e.g. through motion analysis, physical performance monitoring, medical and rehab programs, etc. Those examples show that also here, data acquisition and processing are key. Enhanced technologies hardly find any attention. Real-time analytics platforms such as Wisehockey[52] visualize many statistics and will play a critical role in enhancing sports data analytics in the future.

Federations and clubs in Germany experience very different levels of development in this area. Often depending on partners that are experts in data processing, clubs are more or less active in introducing digital processes in their sports department. Lack of expertise or financial hurdles can slow down the development, even if they are aware of the advantages.

Some federations also report easier direct communication towards athletes as an important advantage/necessity. Improved and faster communication through digital channels allows a direct approach of top and youth athletes. Apps with freemium access, e.g., basic information for fans free of charge plus special content allocated to defined stakeholder groups, e.g., business, hospitality, or sport relevant information for coaches, are seen as useful mediums for the future.

[52] For more information: https://wisehockey.com

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3. Media and Digital Infrastructure

The media infrastructure is often understood as the gateway to the fan. Thinking from the fan's point of view, various new technologies find their way into the sports business. These technologies that serve the fan will be looked at in detail in the next step. However, the basic prerequisite for implementation is technical progress.

5G is one of the most important innovations as it will not only influence the logistical procedures at a venue but also offer new opportunities in terms of fan communication. Broadcasters will be able to send signals around the world with much less effort and costs, without large OB vans and less personnel. Additionally, the transmission time will increase and therefore allow the implementation of further technologies to provide fans with more information. While media or communication companies are advancing technological development, sports rights holders are naturally more interested in use cases that can be monetized.

Also in this business field, we see a broad range of development in the German sport landscape. While some rights holders are already working with their partners on innovative solutions, others are fighting for basics. Within the Bundesliga - as the financially most potent sports platform in Germany - the differences are wide and not necessarily fully related to economic power. Role models in terms of digitalization such as Eintracht Frankfurt, Bayern München or Union Berlin are having designated units or personnel responsible for digitalization. Chapter 5.4. will describe selected use cases from football and other sports in detail. Others, like for example VfL Bochum, are working on the basic requirements and are still in the process of setting-up a stable WLAN coverage in their stadium.

Sports rights holders are aware that the ability to collect more data through enhanced technology is valuable for both sports development and fan communication. At the same time, decision makers feel that the given technological infrastructure, e.g. 5G, AR/VR, digital overlay, is not yet sufficient to create added value. Therefore, sports rights holders are hesitant to invest in a better technological infrastructure. They are rather pushed by media partners or waiting for success stories of others, possibly of other markets, to not risk a capital loss.

Instead, sports rights holders count on digital communication channels such as social media, websites, and apps. Fan communication mostly happens through the traditional social media channels Facebook, Instagram, YouTube, twitter etc. but community building hardly seems to exist.

Besides digital infrastructure, sports rights holders do of course care about media revenues. As fan behavior changes, the distribution of media rights also needs to be reevaluated. It's not only the decision between free or pay TV distribution anymore, but also the utilization of digital channels for communication becomes an important issue. Traditional free and pay TV models may not be sufficient, and digital channels must be utilized to reach fans and maintain their interest in the sport. The challenge is to balance short-term revenue opportunities with the need to maintain long-term interest in the sport, and to find the right distribution model that meets the needs of both the rights holder and the fans. Accompanying digital approaches may be able to guarantee monetization or interest in both cases[53]. Digital communication channels can bring fans more closely to the sport.

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[53] **Excursus: Media Landscape:**
The TV rights business is exceptionally lucrative, particularly for football. However, the model with linear TV stations is being phased out. Only ARD and ProSieben still secure non-live (ARD) and live rights to single matches (ProSieben). The majority of live rights are held by the pay TV channels Sky and DAZN, which share out the games on Friday and Sunday or Saturday. Pay rights for on-demand highlights of Bundesliga and 2. Bundesliga matches immediately after the end of the match were acquired by Axel Springer. DAZN and Amazon broadcast the Champions League. Other sports experience more difficulties in the allocation of their media rights. While winter sports are broadcast entirely on the public free TV stations ARD and ZDF, other associations are taking new approaches. Christian Seifert, ex-DFL boss, has founded the streaming platform Dyn together with the Springer Group. The new platform is primarily intended to offer team sports, except for football, a media platform. The concept sees live content behind a paywall but also lots of freely accessible digital media content throughout the week. With this, Dyn wants to raise the attention for sports like volleyball, handball, basketball and table tennis and maintain engagement even between match day. So much content production and delivery require increased use of remote production technologies.

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The more individualized the approach, ideally based on AI technology, the higher the degree of fan loyalty. Sport rights holders have invested in digital infrastructure as a prerequisite for fan communication and in IT and communication personnel. Hardly non-sports rights holder waives the possibility of fan communication through social media. Most of them have set-up a designated social media unit and hired skilled personnel. The individual character of marketing activities is still expandable and highly dependent on existing CRM solutions.

Sports that have consistently generated higher media revenues and expect this trend to continue seem to be less active in adopting new technologies. However, sports with less media revenues tend to see digitalization as an opportunity and show more openness for it. Sports well covered by the media in Germany are football, while other sports need to become more creative in their media rights allocation.

4. Fans and External Communication

Nielsen Sport's research has shown that digital technologies are mostly developed and used when it comes to fan communication. Be it to improve existing communication channels or to expand new ones. A major part of German sports rights holders has understood that they need to get to know their fans better. Data that support in creating revenues from the fan are required. Thus, knowledge about demographics, e.g. age, residence, income, but also regarding habits, e.g. purchasing habits, regularity of stadium visits, interests are key figures. In this context, fan loyalty is also a big issue. Raising and keeping the loyalty of fans through the provision of targeted information, e.g. through social media channels, may help to build the relationship with fans. Fans that will spend revenues at some time.

The changing user behavior of fans is seen by many as a challenge. In particular, Generations Z and Alpha have a short attention span and tend to also use a second screen while watching a sports event. As digital media platforms provide access to a bigger number of sport events than a few years ago (when sport could only be consumed through traditional TV channels), sports battle for the attention of fans with other sports. But also non-sports entertainment products can distract people from sports consumption. The large number of entertainment offers worldwide are additionally competing with traditional sports events for the attention of fans. In this context, digitalization is partly also perceived as an opportunity to position oneself against larger competitors with improved fan-oriented services. Here, the use of 2nd screens while watching live sports has become increasingly common, and it offers an opportunity for sports organizations to engage with fans and keep their attention on the sport and potentially increase monetization opportunities. For instance, this can be done in cooperation with media partners to further reach and engage fans. The focus on monetization through fan services is a common mindset among German sports clubs and associations, and often the primary objective of digitalization efforts. However, it is important to realize that digitalization is not just about increasing revenue, but also about maintaining the level of existing revenue in an ever-changing digital landscape. In addition, having a solid digital presence and offerings can help in attracting new fans and creating a more engaging experience for existing fans. It is critical for sports organizations to have a comprehensive understanding of the role digitalization can play in their overall strategy, and to realize that it goes beyond just monetization.

Also in terms of fan communication, the range of digitalization efforts between clubs is broad. Experts stress that clubs should be careful not to digitize everything just to have it digitized. Instead, the focus must be on the benefits for the fan. The added value compared to analog implementation should be clearly apparent to the fan. Otherwise, he or she will refuse the service and the investments remain without any return. At the same time, fans without digital access must not be forgotten. Digital products can therefore only be a supplement, not a replacement. Chatbots are one example for such additions. These have not been used much in the German sports business so far but are increasingly receiving attention in other industries.

Following the example of the NBA in cooperation with WSC, the German sports media landscape will also increasingly rely on cost-saving productions in the future.

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This could be a current window of opportunity for Dutch tech companies, e.g. in business areas like ticketing or stadium guidance. At the same time, Nielsen Sports found out that some clubs may be hesitant to turn too many fan services into digital version to not lose fans. Dutch Tech companies should adapt their concept to these findings and take them into consideration when they approach German sports rights holders. Negative fan reaction will influence the mood of sports rights holders, follow-up orders are unlikely and even worse, reputation in the sports branch drops.

Looking at other markets, it seems that in particular the US sports market is more developed than Germany in terms of digitalization. The US sports market differs greatly from Germany's club- and federation-based sports system. The US experiences another sports ecosystem, involves other stakeholders, and lives another culture of sports. Other than in Germany, the sports ecosystem in the US is not based on association structures, but more on license and franchise systems. Through that, the economical collaboration between licensor and licensee is more cooperative. Other systems in the composition of match schedules promise more excitement and entertainment. Sport is more recognized as an entertainment program. The sporting result matters, but the fan experience is built through fan-oriented services around the match. German experts stress that such a design of the sports product will not work in Germany. Fan culture is strongly based on traditions and values and is therefore very different from the USA. Sports events as sole entertainment events would be in danger of losing traditional sports consumers. However, US rights holders are pursuing a fan-centered strategy that is increasingly KPI-based. This includes a high level of service orientation around the fan, and the stadiums are full. They provide good examples of how social media strategies can be better used for commercialization. This requires a different level of professionalism among employees, including a very structured, planned approach and a clear content strategy. Younger people in particular only have a short attention span. In addition, sports compete with numerous other information or entertainment products that demand the fan's attention. So what can the sports rights holder offer a young audience beyond the game? Is a 90 min match too long for the attention span? But also, European markets or German sports rights holders are named as role models for digitalization. The premier league in the UK is recognized as one of the top leagues in Europe for the digitalization activities.

Concrete use cases in the German sports landscape will be discussed in the following and we will take a closer look at key technologies being discussed in the market:

Big Data is generally discussed as the prerequisite for a great range of further applications. While some sports experts underline that the German sports business market has not understood the importance of first party data yet, others are already working with elaborated CRM systems. Nielsen Sports research has shown that sports rights holders are working on data collection but are far behind other industries, like for example the retail industry, e-commerce, or the media industry.

Data are mainly named as the most important asset towards sports, media, sponsors and fans. Including data sovereignty, data protection and data analysis (independent from external algorithms), they are highly valuable in each sports rights holder’s portfolio when it comes to monetization. Data deliver the possibility to get to know the fan better and also to identify the fan’s needs in terms of relevant products to be provided. Data help to identify upselling potential on the fan such as the scarf or the new jersey to go with the ticket. But data can also help to identify churn potential, to commit the fan at an early stage, ideally through targeted information that interests the individual fan. In addition, data offer a wide range of other opportunities to make fans' lives easier, for example by providing suitable travel information, route guidance, early identification of bottlenecks and ensuring safe stadium visits.

Gained data can be even better leveraged through the use of **artificial intelligence**. Clubs that are more deeply involved in digitalization have recognized that AI will help them to use existing data in a targeted and profitable way. Basically, the German sports landscape is still at the beginning of this process. However, use cases from other industries may help accelerate the progress. AI helps to automate the exploitation and thus process a significantly larger amount of data. This leads to far better opportunities for monetization, both towards own fans and sponsorship sales.

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Not least to mention the possibilities for improvement of sporting performance through data tracking. But still, sports rights holders in Germany process data in a rather manual than intelligent way.

As mentioned above, a connected data warehouse will be capable of influencing various revenue streams inside a federation or club positively. At the same time, it is the biggest challenge to synchronize those revenue streams. Uncoordinated work on individual solutions is often observed. A joint solution would require increased coordination efforts, possibly longer implementation times, and a higher investment volume in a single project. All three points are perceived as massive challenges. However, the lack of synergies means that information cannot be processed optimally.

Smart Venue: Looking at fan services around the stadium visit, clubs are still working on digital ticketing solutions and automation of stadium infrastructure, e.g. digital ticket identification at entries. Databases behind digital ticketing systems are often outsourced and led by external ticket service providers like CTS Eventim Sports, ticketmaster, reservix or Skidata. Following, sports rights holders in Germany don't have full access to data of their own fans and are not able to make use of it. Clubs identify this fact as highly problematic. They tend to work increasingly on improved contracts with service providers or in-house solutions.

The next step is the development of smart venues. Nielsen Sports has found that sports rights holders in Germany are primarily speaking of fan services when it comes to smart venues. But according to Fraunhofer Institute, operational services will also profit from smart venue solutions. Better planning of stadium utilization (alternative use) and intelligent pitch maintenance are just two examples to be mentioned here.[54] Drees and Sommer, an international consulting company for the building and real estate sector, also point out that through consumption measurement and intelligent control of building technology in combination with AI, smart venue solutions have great potential for reducing energy consumption, e.g. regarding lighting, heating, cooling, screens and displays that are named as the cost drivers of a match day. Also pitch heating and floodlights are in discussion. As a smart building, the stadium not only measures energy consumption, but also regulates it as needed.[55] Smart venue solutions therefore contribute to both cost savings and revenue generation. In both cases it's clearly pointed out that AI is the base requirement to do so.

Digitalization of the Fan Experience [56]

Do you agree with the following Statements?					
	DFL	HBL	BBL	DEL	Average
Digitalization and maintaining values and traditions in German professional sports are not incompatible.	55,2%	82,1%	80,4%	85,6%	75,8%
Too much digitalization distracts from the match as core of the event.	80,9%	68,8%	69,1%	65,3%	71,0%
Too much digitalization reduces the match day experience.	79,3%	63,6%	66,7%	59,7%	67,3%

Fans value digital services in the stadium. They do not differentiate as much between indoor and outdoor arenas. However, DFL fans seem to rate digital services higher than fans of other German leagues (HBL/BBL/DEL). 75% of fans surveyed in a study on the subject of smart venues think that digitalization and the tradition of German sports can be reconciled. However, football fans are more critical. Here, only around 55% agree on compatibility of traditional values and digitalization. This demonstrates how important it is to communicate clearly with fans and to focus digital services on their needs. At the same time, the survey indicates that digitalization should be pursued moderately. Thus, 71% of participants agree that too much digitalization distracts from sports.

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[54] Stadionwelt (2022). Special Smart Stadium. Stadionwelt Inside, 6-9. from: https://www.stadionwelt.de/ebooks/smart_stadium/

[55] Stadionwelt (2022). Special Smart Stadium. Stadionwelt Inside, 5. from: https://www.stadionwelt.de/ebooks/smart_stadium/

[56] Adapted from: Stadionwelt (2022). Special Smart Stadium. Stadionwelt Inside, 11, from: https://www.stadionwelt.de/ebooks/smart_stadium/

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Again, football fans are particularly critical. According to 67% of fans, digitalization can even reduce the sports experience.[57] These results show well how important it is for clubs and OC's to know and understand the needs of their fans. Smart venue solutions should clearly be thought of from the fan's journey, simplify stadium attendance or make it more comfortable. Only this way, sports rights holders can avoid investing in non-beneficial assets. At the same time, stadium visitors that do not want to use digital applications, must not be excluded from the stadium experience.

Also in terms of smart venues, Nielsen Sports found out that the level to which sport right holders engage with smart venue solutions varies widely. Stadium modernizations are often thought of in terms of structural modernizations, such as renovations or renewals of roofs, floors, lighting, etc. Investments in enhanced technologies are most useful in stadiums that regularly host events, such as those that are part of a league (Bundesliga, DEL, HBL, BBL). Stadium sizes range from ca. 30,000 to ca. 81,000 seats (Bundesliga), 3,000 to 14,000 (BBL), 2,000 to 13,000 (HBL) and 4,500 to 18,600 (DEL). The last major wave of football stadium construction happened before the 2006 World Cup in Germany. This includes the Allianz Arena in Munich, which for a long time was considered the most modern stadium in the world and is still one of the top stadiums in Germany. Today, venue operators tend to think about modernizations; plannings of entirely new buildings are rare, except for a few examples of potential new indoor multipurpose venues in Frankfurt,[58] Stuttgart,[59] and Munich.[60]

Some professional sports clubs clearly indicate that they first need to clarify basic issues - for example, how digital ticketing systems work, how internet coverage can be provided in the stadium or how cashless payment can be made at the food stand. Others are already working on intelligent all-in-one solutions. Those sports rights holders deal with smart venue solutions before and during the visit. Kicked off with the ticket ordering, the fan enters ideally his individual fan journey. This is achieved via software solutions that simplify planning and, for example, also enables passing on tickets digitally to family and friends. Clubs are also looking at how they can get fans to consume more on the match day. Frequently mentioned features are the provision of pre-match information (weather, traffic situation), travel, directions, digital payments, ordering food to the seat. Cost reductions seem not to be primarily in mind of decision makers when it comes to smart venue solutions but are relevant and a significant sales argument for Dutch Tech companies.

Social Media has become a common tool for fan communication and is an established element of most rights packages. Most clubs and federations have designated departments for social media communication. However, Nielsen Sports has the impression that some sports rights holders tend to mix up social media activities with digital transformation and forget about digitizing business processes. it does not matter whether the associations are large or small. Holistic knowledge and openness towards digital transformation are important to bring digitalization to life for the sports right's holder. Also here, data and AI could lead to a more individual and thus intense fan bonding. Social media shows easily that other industries already make use of artificial intelligence to target possible consumer groups and are generating revenues with doing so. Instagram or Facebook make it possible to reach a specific target group based on location and demographics like age, gender, interests or on what people do offline from social media. By doing so, existing audiences can be reached, communities can be built up or new audiences can be created that are similar to the customers the sports rights holder already has. Having said this, a pushing partner or the financial benefit of fan loyalty must be made visible for investments of sports rights holders.

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[57] Stadionwelt (2022). Special Smart Stadium. Stadionwelt Inside, 11, from: https://www.stadionwelt.de/ebooks/smart_stadium/

[58] For more information: https://www.thedomefrankfurt.com/en/

[59] For more information: https://www.echo24.de/baden-wuerttemberg/stuttgart-abriss-schleyerhalle-drei-alternativen-konzerte-veranstaltungen-events-neubau-zuschauerzahl-plaetze-zr-92026401.html

[60] For more information: https://www.sapgarden.com

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App Development: Sports rights holders stress out the relevance of having a designated app. All current Bundesliga clubs provide a fan app, usually rated from 3.5 to 5.0 points. Some clubs furthermore have designated business, hospitality, stadium, or academy apps. Also, all German major leagues and federations (football, ice hockey, handball, and basketball) provide apps. Apps are indicated to be developed by a club or federation itself, but it must be assumed that app development is usually outsourced due the lack of inhouse knowledge.

Target groups of those apps are primary fans, but it can also serve as an information tool for sports people like athletes or coaches. Some rights holders even go so far as to say that an app should serve as a collaboration tool. In other words, the app is not only used to send information, but also to improve the exchange between the club and its fans. In turn, the wishes and needs of fans can be better recognized and understood.

The single sign-on, providing access to all information and products of an association, can be named as the utmost goal in app development for German sports clubs: The following information and services are to be provided through an app via one single log-in (list not definitive):

- Sport Information: schedules, rankings, athlete's information, etc.
- Information regarding on-site experience (fan journey)
- Venue solutions like digital payment (i.e. Eintracht Frankfurt) or hospitality information
- Access to ticketing and merchandise shops
- Access to website or social groups
- (Limited) media distribution depending on the rights situation (e.g. link to broadcast or OTT provider)

Challenges are faced in bringing all that information together, not only in terms of coordination but also seen from an IT perspective. Often, federations or clubs collaborate with different service providers for the assets named above. External service providers work with different IT infrastructure, interfacing is difficult and also data are hosted externally, mostly not even owned by the club. Additionally, Nielsen Sports has observed that in particular football clubs don't welcome white label solutions. Other than for example in the US sports, clubs don't use synergies in implementation and of course financing, but are working on their very own solution. Reasons therefor can be found in vanity, club-specific features or worries about non-acceptance by fans if cooperating with a competitor. A counterexample is the German Ski Federation that has recently partnered up with its Swiss and Austrian colleagues to work jointly on marketing and ticketing initiatives.

Also here, it's clearly visible again how important the availability of data and the right of use is for associations and clubs. By linking the correct fan data - ideally via AI - such as behavior, purchases, demographics etc., individualized information can be provided to the fan through the app. Generating a closer fan connection and further spend, e.g., for merchandise articles, are the consequence. When it comes to pitching, technology companies should emphasize this sales potential and include those revenues in their business case.

Having said this, an app can also provide business or sports relevant content. Through various login solutions, targeted information can be provided for different stakeholders such as fans, business partners or sports people. Enriched, for example, with sports data and statistics, this results in further usage options. At the same time many rights holders struggle to feed their app regularly with content. Approaches that promote interaction and community-building could be a starting point for tech providers to help rights holders overcome this challenge.

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Finally, the cost of app development plays a decisive role for German sports federations or clubs. It's the key factor in how far an app can be rolled out. However, German sports rights holders seem not to be interested highly in white label solutions, but in individual applications, even if synergies would reduce costs. The cost of app development can vary widely. Even if the added value in stakeholder communication is evident, most German clubs are not able to realize above-average budgets. Therefore, implementations with partners are favored with respect to both, financial and knowledge support.

Augmented Reality and Virtual Reality are named as technologies that will gain in importance in the upcoming years in the sports business. From interviews with branch experts, Nielsen Sports summarizes that the existing state of technology is not yet sufficient for AR or VR to become suitable for mass use. The development of both technologies should be clearly thought from the fan's perspective, focusing on the fan's journey and improving its experience. AR and VR can provide an added value for fans if it is developed based on the user behavior. Experts expect AR and VR to become mass-market products only if they meet these requirements. However, all developments must take into account that AR and VR can only be additional technologies. In future, it must still be possible to experience sport without these add-ons, so that older fan groups are not scared away. Some sports experts even go so far as to say that, for some fans, sports are an escape into a "real" world without digital content. Nielsen Sports predicts that AR and VR cases off the pitch can be implemented more easily initially. There are already some examples, such as Schalke 04, who bring their museum to the smartphone with "Museum Live - AUGMENTED REALITY." Multimedia supplementary services are offered at the museum via the S04's own app. The use of AR and VR technology can enhance the visitor experience and make the museum more interactive and engaging.

Sports marketing experts expect the US to be the first market that brings AR and VR technology in mass usage. Based on proven use cases from the US, both technologies will be more easily adopted in the German market. Regarding the time span, expectations vary widely and range from two to four or five years until the German sports business is ready for it.

Media experts also consider that sports do function differently. This includes for example field sizes, movement patterns, static stadiums vs. individual sports venues, etc. Some sports are more suitable for the implementation of new technologies than others. This includes sports with a static field of play, the smaller the size, the easier it is to cover with technology. In addition, it is more profitable to equip stadiums with technology that are used on a regular basis, e.g. because they are part of a league with weekly games. This should necessarily be considered to realize successful use cases.

Non-fungible tokens, blockchain technology, cryptographic: Cryptographic assets are less often considered as a must-have technology for German sports rights holders. Highlighted as the digital investment of the past few years, cryptocurrencies such as NFT's have experienced a painful loss in recent months. Some experts describe it as an extreme hype that has finally ended in a background noise.

Cryptocurrencies are not a native sports topic, but one that requires deep financial knowledge. In sports, NFT's based on blockchain technology become interesting when it comes to uncovering new sources of funding and arousing passion among fans. Constrained by a lack of financial expertise, many rights holders are reluctant to embrace blockchain technology. Nielsen Sports found that some, as e.g. Eintracht Frankfurt or Deutsche Sporthilfe, are launching test balloons. However, most of them - including federations and Bundesliga clubs like VfL Bochum, Borussia Mönchengladbach or TSG Hoffenheim - are taking a wait-and-see approach and emphasize that they don't have to jump on every trend. The return on investment is too uncertain and expertise too little. NFTs are a niche product and require explanation to consumers. Blockchain technology is not yet ready for the masses in Germany, and the population does not understand the financial background.

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Nevertheless, Nielsen Sports has conducted a survey among football fans to understand the current acceptance of NFTs in the market. After all, 22% have indicated to have already heard about NFTs, while 69% of the participants have not. Only 2% answered yes when asked if they have already engaged with NFTs, but 87% also said that they don't know yet enough about NFTs to comment on this. Use cases that link NFTs to added value other than financial gain may be an option. Add-ons with a clear link to analog sports, such as behind the scenes tours, money can't buy experiences are easier for fans to understand. Nielsen Sports assumes that such applications may become attractive in the future.

Metaverse technology is rated very similar to blockchain technology as having little relevance. Federations and clubs observe developments around the metaverse with interest and keep themselves informed. However, hardly anyone considers implementing a metaverse application themselves. Successful use cases from the business world are lacking, the vast of most of the German population is not prepared for digital identities. Thus, use cases for sports are not clearly recognizable. Experts estimate that it will take another 4-5 years before metaverse technology develops itself and therefore gains relevance in the German sports business.

Both developments, blockchain technology and metaverse, show that not every hype becomes a long-term trend. However, digital innovations will develop exponentially in the future and influence the sports business.

Gamification: Nielsen Sports found out that opinions amongst sports rights holders about gamification among sports rights holders differ significantly. While some are working on gamification projects such as video games or online games, even in cooperation with other sports federations to use synergies, others reject gamification completely. Supporters seek to generate revenues. Those who reject gamification argue that they want to support sport and bring children in movement, not in front of gaming stations.

E-sports experts of course have a completely different view on gamification than sports rights holders. Those both stakeholders must not be mixed up when talking about sports and digitalization. While e-sport is natively digital, sport is not and has therefore a different access to digital topics. Technology firms should keep that in mind when they approach sport or e-sports companies. Based on the customer's readiness, digital solutions must be thought of and positioned in very different ways.

5. Sponsors and Partners

Sports rights holders and sponsors drive digital technologies connected to sponsorships. Sponsors aim to reach more fans, within their specific target group with their intended message. Marketing departments are increasingly shifting their budgets to digital assets (for efficiency, addressability, and measurement reasons) and also requesting these from their partner in sports. Therefore, digital assets have become a non-dispensable part of right-packages. Sports rights holders in Germany feel that they have to offer digital assets to close the sponsorship deal. They have set-up digital communication channels and create (branded) content for that. As federations and clubs have recognized that this asset is marketable and monetizable, interest in further development is given. As in other digital investments, also here it is of high priority that a return on investment within a short-term period / one year is predictable.

It's not only the request of (perspective) sponsors that can result in creation of more digital marketing assets by sports rights holders. As described above sponsors are often further developed in digital transformation and can therefore influence digital development significantly, also besides marketing or social media activities at a sponsored entity. Therefore, Nielsen Sports recommends Dutch technology companies to approach sponsors that are interested in intensifying their digital partnership with sport rights holders.

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The rights holders in Germany are working on sponsor loyalty and acquisition not only by working on enhanced digital rights packages, but also by working on on-site digital sponsor integration. Larger associations are already working together with service providers to increase existing surfaces for sponsorship visibility through digital overlay. The targeted broadcast of a match or competition to the sponsor's target group, allows sports rights holders a multiple occupancy of defined surfaces and therefore a higher revenue through sponsorship sales. Again, the development of digital innovation is clearly driven by opportunity. For successful implementation, sports rights holders need to know that their fans also know that they have a well-maintained data warehouse. Extended by allocation of the sponsor's message to a specific target audience by artificial intelligence, this technology could contribute to successful sponsorship implementation, both for clubs and for sponsors. While technology for digital overlay is in development and proven in static stadiums, clubs do not yet have sufficient data on their fans to allow for targeted allocation. This circumstance makes the use of digital overlay useless for many federations and clubs at the present time as they are not able to allocate a sponsor's message to the right target group.

In summary, the German Sports Business sees digital development as one of its top topics in 2023. Sports rights holders have stressed the importance of data to Nielsen Sports. However, Nielsen Sports feels that not everyone has yet fully grasped the importance of data to generate additional revenue streams. More advanced technologies are mostly built on data. Technologies only become interesting from a financial perspective when they can be fully leveraged. German sports rights holders who have understood this are mostly still in the phase of setting up suitable data systems. Stakeholders are intellectually exploring different technologies, and some are experimenting with individual use cases. But Nielsen Sports can hardly identify any strategies among sports rights holders in Germany that involve the application of more advanced technologies - some exceptions not included. German sports rights holders tend to have a patchwork of their digitalization activities. Decision makers do not see the use cases (yet) and show a wait-and-see attitude.

So what? The level of digital expertise is a very individual matter of each club, federation or sports rights holder. Digital technology firms should not expect deep knowledge or openness for emerging technologies. Approaches must be developed based on the unique needs of each sports rights holder. A uniform sales approach that is applied to many clubs is very unlikely to pay off. Dutch technology companies should inform themselves first about existing technical and digital basics such as present IT hardware and software and data management systems. They should verify whether and which basic prerequisites are available to be able to offer further meaningful solutions starting from this. A clear strategy that contributes to new revenue streams and the demonstration of added value in use cases are key.

As we have seen above, big data and artificial intelligence are the requirements for several digital technologies to be applied. We have also learned that a lot of sports rights holders are struggling with gathering, collecting, analyzing, and using relevant data. Therefore, the establishment of fundamentals could be a great opportunity window for technology firms to start with sport rights holders cooperations. Nielsen Sports recommends approaching sports rights holders and sponsors with a greater understanding of digitalization, e.g. thanks to the establishment of digital positions and stable financial market power.

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5.4. Use Cases of Digital Technologies

To give Dutch tech companies a better overview and understanding of what German sports rights holders are working on, Nielsen Sports has compiled selected use cases of digital technologies in the German sports business. The cases presented will again focus on the following structure:

Internal Stakeholders:

- 1. Employees and Internal Business Structures
- 2. Sports and Athletes

External Stakeholders:

- 3. Media and Digital Infrastructure
- 4. Fans and External Communication
- 5. Sponsors and Partners

Particularly, the last case mentioned, the AR initiative driven by Volkswagen, showcases that sponsors can be a driver of innovation for sports rights holders too. Because of this, it may be beneficial for Dutch tech companies to approach digital minded sponsors.

1. Employees and Internal Business Structures

EintrachtTech: Eintracht Frankfurt's Digital Company Ensures Digital System Excellence
Eintracht Frankfurt has a very innovative and unique digital strategy model that sets itself apart from any other professional sports team in Germany as they have chosen to "outsource" to some extent its digital challenges to a wholly owned subsidiary called EintrachtTech. The subsidiary is responsible for creating new revenue streams through new technologies and digital services. Thus, the club hopes to gain on professionalism when it comes to digital topics as the subsidiary focuses on the digital system independently, letting the club's digital department focus on the strategic part and decision making for the future. One of the primary focuses of EintrachtTech has been to secure data of fans, partners and members and the in-house modernization of Eintracht Frankfurt's core digital systems to achieve fundamental technical independence. Once this was done, the center of attention became business competitiveness with improvements of the online shop and ticket system.

In 2021, EintrachtTech introduced its lighthouse project, the "Mainaqila" app that is planned to be one single digital B2B2C platform for fans, partners, or future partners. It is supposed to represent the entire Eintracht ecosystem as it features various club-related services (e.g. club news, club TV, and an online shop for tickets and merchandise). However, the app's unique selling proposition is that it - at the same time - integrates services from the club's partner network (e.g. global news provided by FFH, job search provided by Indeed, and cashless payment provided by Mastercard and Deutsche Bank - also beyond the Eintracht Frankfurt ecosystem).

Eintracht Frankfurt's general digital strategy is not just about their own business as a football club: in fact, they want to be a digital hub in the greater Frankfurt area and connect people or economic actors. EintrachtTech's role thus also includes the set-up of cooperation with Tech-startups and regional universities. An example to highlight here would be the "TechTalents" program together with the external start-up-hub TechQuartier where a couple of students assisted on workshops and brainstormed on projects for the future in the digital field.

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Also in this way, the club created the digital center “Arena of IoT” in their stadium where various digital projects are conducted, especially in the field of sustainability and work efficiency. These initiatives are primarily tested on the club’s home venue, the Deutsche Bank Park, but are also intended for a broader use within the region. They work on this matter hand in hand with external digital service providers such as Cognizant, e.g. to improve visitor flow management through AI and data analytics.

Other initiatives and cooperations of EintrachtTech include the introduction of Eintracht digital NFT fan merchandise through blockchain football platform “The Football Club”, as well as a test pilot with self-driving vehicles to research new mobility and logistics solutions in cooperation with Edag Group. Eintracht Tech intends to develop digital solutions also as a white label solution. Digital solutions will thus also be made available to other rights holders while EintrachtTech positions itself as a service provider and generates new revenue streams.[61]

DFL: Introduction of a “B2B-Portal” to Optimize Processes with and for Business Partners
The interactive Platform connects all key-actors of German Professional Football: The DFL had recently given themselves the objective to ease the communication between German clubs and their media partners, which they achieved in 2022 in setting up the “B2B Portal”, a data hub with various media content, in collaboration with Amazon Web Services (AWS).

A central reason leading to the creation of the portal was that information flows are processed digitally, and content-distribution needs to happen through an automatic process. The B2B Portal has been responding to these needs, in allowing certified users (media partners) to have access to the content they are entitled to on the data hub.

As a result, the DFL has now the possibility to meet exactly the needs of every media-partner and to create individualized right-packages. Through algorithms, these partners see themselves given recommendations of new content to acquire too. In fact, the portal is also a tool in itself to process content: it enables users to extract automatically and instantly highlights from match recordings or interviews.[62]

2. Sports and Athletes

DLV: The German Track & Field Federation Introduces a Digital Athlete Monitoring System
In 2020, the DLV implemented the “AthleteMonitoring” database gathering all medical information of athletes' sports devices (watches, sensors), for which their individual coaches and medical staff have access. Thus, their staff can see and assess the intensity of their training with a series of statistics and estimate progression, fields of improvements to optimize their training for maximal performance. However, another even more important shade is that their medical staff can see how athletes are doing throughout their recovery process to adjust the following training sessions and prevent them from eventual injuries coming from overstressing. Staff can also easily consult athletes' medical history to make up their mind and compare evolution throughout the years.

61 For more information: https://klub.eintracht.de/eintrachttech/, https://klub.eintracht.de/eintrachttech/plattform/, or https://klub.eintracht.de/eintrachttech/digitalzentrum-arena-of-iot/

62 For more information: https://www.dfl.de/de/innovation/das-b2b-portal-vom-distributionssystem-zur-interaktiven-plattform/?utm_source=newsletter&utm_campaign=Newsletter%20%233%2F2022&utm_medium=email&fbclid=IwAR3zJdxx3NLmtdRf6HXKyZtHbRQeIqYAbgWCuIs5MhA0BsPLxzKD56Wxaz0

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An app eases the use of data and allows athletes and coaches to communicate and plan training sessions. A challenge when setting up the database was to secure data and that the app respected the EU law on privacy policy, which they did. For this purpose, the server for the database is located in Germany.[63]

3. Media and Digital Infrastructure

1. FC Köln: Innovation Game 2022

The 1. FC Köln has conducted a 5G showcase in cooperation with their partner Telekom to offer new fan experience and to respond to digital service's needs. In July 2022, Deutsche Telekom organized a so-called „Innovation Game" in Cologne (friendly match: 1. FC Köln – AC Milan). The aim of the German telecommunication giant and sponsorship partner of Cologne's football team was to realize an unprecedented showcase of 19 technologies in a real-game environment. The union of all of them and especially the 21 different camera angles constituted a singular fan experience. Philipp Liesenfeld, 1. FC Köln's Head of Corporate Development and e-sports, declared ahead of the game that they had the idea that one day they would have an event where they may be able to test, in a real game, all the technologies they have.

To do so, 5G connected body cams were put on players to allow a „first-person" view among 21 other filming angles, creating extraordinary highlights. At the same time, sensors were put in players' shoes to collect live match data. Moreover, Deutsche Telekom tackled the 5G network challenge to offer a more qualitative stadium experience after 1. FC Köln fans declared wishing more connectivity and a more controlled repartition within the stadium in a poll conducted in 2021.

In this way, the German brand created a strategic Crowd Management System to inform visitors at which entrance, bar or restrooms they queue the less within the Rhein Energie Stadion. Interestingly, special fan scarfs were used as match tickets too. This case is an example illustrating the need of German fans for connectivity within their stadium experience and their avidity for new digital services.[64]

4. Fans and External Communication

SV Werder Bremen: Fan NFTs

The Football Company (TFC) and SV Werder Bremen have entered a partnership to bring officially licensed NFT merchandise to the market. Nico Hruby, SV Werder Bremen's Chief Digital Officer has seen in NFTs new possibilities to improve digital fan experience and respond to a new consumption demand, especially of young target groups.

Thus, the club decided to start offering their own licensed NFTs (mainly jerseys) in partnership with "The Football company", a German start-up based in Munich, in 2022. These digital tokens can be collected, exchanged, and used on an online app. Doing so, Werder's goal was firstly to learn about their NFT market potential and how they can best meet the demands of their fans and partners in the future regarding NFT.

One of the main challenges the club wanted to overcome was to link their NFTs with reality which they succeeded: in addition to a virtual experience Werder's token can give place to real benefits, like having the chance to participate to meet & greet events with players for example.

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[63] For more information: https://www.leichtathletik.de/nationalmannschaft/athleten-monitoring

[64] For more information: https://www.bundesliga.com/de/bundesliga/news/1-fc-koln-ac-mailand-telekom-cup-innovationsspiel-20546

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Since the jersey collection has grown no later than a week ago with new e-sport jersey NFT's one could assume that Werder already reached some fans. SV Werder Bremen declares paying attention to the carbon footprint throughout the development of their tokens with TFC, pointing out the use of FLOW-Blockchains from Dapper Labs, being more energy-efficient than others. This certainly allows good CSR communication and shows a responsible approach of economic growth.[65]

VfL Bochum: Digital Ticketing Strategy

VfL Bochum puts efforts in the improvement of their digital ticket strategy to generate more revenue by investing in intelligent customer acquisition and relationships. End of 2019, VfL Bochum decided to partner with webnetz.sports on their ticketing strategy. Their challenge was to generate more revenue thanks to tickets, using the capacity of the stadium and selling remaining tickets. Jointly, VfL wanted to track more precisely their dedicated budget for ticketing campaigns.

To respond to this need, webnetz.sports defined several working axes: a solution for conversion-tracking, performance-oriented Google Ads campaigns, customer acquisition campaigns to sell more tickets. All this has led to significant improvements as far as the revenue of ticketing is concerned, especially during the first 3 months after implementation. More precisely, the revenue increased by 15%, ticket shop transaction by 40% and click-rate by 33% return on investment.[66]

SC Freiburg: Smart Stadium Access

SC Freiburg also invested in ticketing and access solutions based on intelligent software. When SC Freiburg moved into their brand-new stadium, the Europa-Park Stadium, in 2021, they wanted to modernize the entire stadium experience for their fans. One of the most important developments they saw at first glance was the improvement of the in-venue experience. Hand in hand with Reservix, their ticketing partner and Axess AG's software solutions, they wanted it to be fast while remaining secure.

Thus, Axess installed a modern setup with an individualized cloud hosting private and fully secured servers. An important feature of the system is its offline functionality, which makes it easier to ensure that the system is working properly even in the event of a connection failure. (As soon as the Internet connection is restored, the system automatically updates).

For fans, a significant stadium experience change is the possibility of having E-Tickets on their mobile phone. Generated QR codes are compatible with Apple, Google Smart Tip, NFC Wallets which eases their adoption.[67]

FC Bayern München: Big data analytics

FC Bayern München has rethought possibilities in terms of digital fan experiences as well. Therefore, a big data initiative to learn more about the FC Bayern München fan was conducted in partnership with SAP. Offering a qualitative digital fan experience has become a norm for professional clubs, and especially for German biggest club FC Bayern München. However, during the past decades, the club has chosen to work with the most appropriate individual IT solution for each of its departments and different purposes.
As a result, all gathered data were scattered throughout 50 different systems and disconnected from each other. Consequently, the club wanted a solution to gather all customer, fan and member-data in one system to cross them and facilitate their use in the future.

The club partnered with SAP to create a personalized "Gold Fan Record" that filters customer data by 250 attributes. This allows the club to identify target groups and create content, services or specific products that meet their needs. (The club declares that "they now have a 360-degree view of their fans, which allows them to get closer to them").

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[65] For more information: https://www.stadionwelt.de/news/37829/werder-startet-mit-trikots-auf-nft-basis

[66] For more information: https://sports.web-netz.de/case-study/vfl-bochum/

[67] For more information: https://www.stadionwelt.de/news/33563/zutrittssystem-und-smarte-software-fuer-freiburger-stadion

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At the same time, the use of SAP Analytics Cloud enables simplified live analysis with heat maps and dashboards, providing key data for each department of the club.

FC Bayern Munich immediately improved its cross-marketing (for example, if a product in the online store is out of stock, the customer receives an alternative offer). The online shop's revenues have significantly increased thanks to new customers, the value of shopping carts and mobile shopping solutions.

5. Sponsors and Partners

Volkswagen: AR experience for Fans
Volkswagen started a sponsor-driven initiative to maximize fan engagement at football events by AR experience. German automobile manufacturer Volkswagen is a prominent sponsor in football, being not only the main sponsor and major shareholder of VfL Wolfsburg but also involved in partnerships with great football federations, competition and clubs and searching to activate them.

For the UEFA EURO 2020, they planned an interactive WebAR-Experience together with the agency 361/DRX. More precisely, they allowed fans to take “digital pictures” with the mascot “Skillzy”, the Euro trophy (incl. funny filters). In this way, even when not assisting the event, fans were able to access a digital fan experience. The AR Experience was easily accessible on smartphones thanks to QR-Codes, and without a dedicated app. The mascot filter was designed in 2D for great pictures, whereas the trophy was configured in 3D to be contemplated from all sides in addition.

The goal of the marketing campaign of Volkswagen was to overcome the physical distance between fans and the competition and to create an emotional contact between them and the brand. Car-sellers promoted it via stickers to give away to customers, digital campaigns were conducted on social media, and the AR Experience was pointed out on stadium screens.[68]

[68] For more information: https://www.esb-online.com/business-guides/artikel/innovative-ar-experiences-fuer-maximales-fan-engagement/

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5.5. Overview of Key Industry Events

In the German sports industry, personal networks play a key role in business growth and development. Opportunities often arise from existing connections and established relationships. Companies with great solutions but limited contacts and networking opportunities may struggle, as references in the sports industry are extremely important. German sports rights holders seem to shy away from working with unfamiliar companies. Therefore, it is even more important to develop and maintain a strong network.

The German sports business offers a few top industry events that are well-known for both, exchange of branch insights and networking opportunities. The SPOBIS is known as one of Europe's top sports business events and takes place in Dusseldorf on an annual basis. With 4,000+ participants, 1,500+ companies and 200+ speakers SPOBIS is Europe's largest sports business event to discuss the latest insights and trends and to initiate business (networking, idea generation, training, and development). Participants come from various stakeholder groups in sports business, nationally and internationally. Nielsen evaluates SPOBIS as a very interesting platform for Dutch tech companies to visit as networking opportunities and knowledge insights are great. The Sportbusiness Club is a smaller format of the same provider, which takes place on a more regular basis. This event also offers good opportunities for exchange and presentation. Another highly relevant congress is the SPORTS.TECH.FORUM with 20+ experts presenting innovations and best cases from the growing sports tech market. The congress understands itself as a platform for brands, startups, and solution providers. It is intended to gather decision-makers, enable a professional exchange, to maintain contacts and to make new ones. Although the conference takes place in Switzerland (St. Gallen), many players from the German sports industry can be expected there. The DIGITAL SPORTS & ENTERTAINMENT congress focuses on current developments and trends in digital marketing in sports & entertainment. Each year, this event takes place in Berlin.

Also, congresses and fairs that are not focusing on digitalization issues but are well known in the sports industry could be of interest for Dutch technology companies depending on the business model and target group. The trade show FIBO that hosts up to 150,000 visitors in Cologne each year is the leading international trade show for fitness, wellness, and health. More than 1,000 exhibitors from across the globe present themselves at FIBO Cologne. Great chance for technology firms to learn about trends in the fitness industry and to network. The ISPO with 80,000 visitors and 3,000 exhibitors is well-known for its branch get-together of the outdoor sports, snow sports, sports fashion, health & fitness, and textile trends. ISPO Munich connects decision-makers from these areas, innovators, influencers and the media with the sports community to take the world of sports to the next level. Also, this trade show offers Dutch technology companies' great possibilities to gain insights in the outdoor industry and to get in contact with important stakeholders. The FanCommerce Forum @ Merchandising Messe Hamburg with 1,000 visitors is held as part of the merchandising trade fair in Hamburg. Top decision-makers from the sports industry meet to discuss the latest developments in merchandising & licensing, e-commerce, and the sporting goods industry.

Besides the mentioned congresses, Nielsen Sports has listed a few top events that do not focus exclusively on sports but are well recognized for their digital insights. The OMR Festival, hosting 70,000 visitors each year, brings international superstars of the digital scene, but also hidden champions of the industry and local heroes to Hamburg. It is a mixture of expert knowledge, learning and inspiration. Another event to be considered is Bits & Pretzels with 5,000+ visitors. Hundreds of startups, investors and corporates are joining Bits & Pretzels every year.

Other top events in digitalization are the Cloud Expo Europe, angacom, Digital X or the Smart Country Convention. Those events are focusing on technologies and digital insights but less on requirements in sports.

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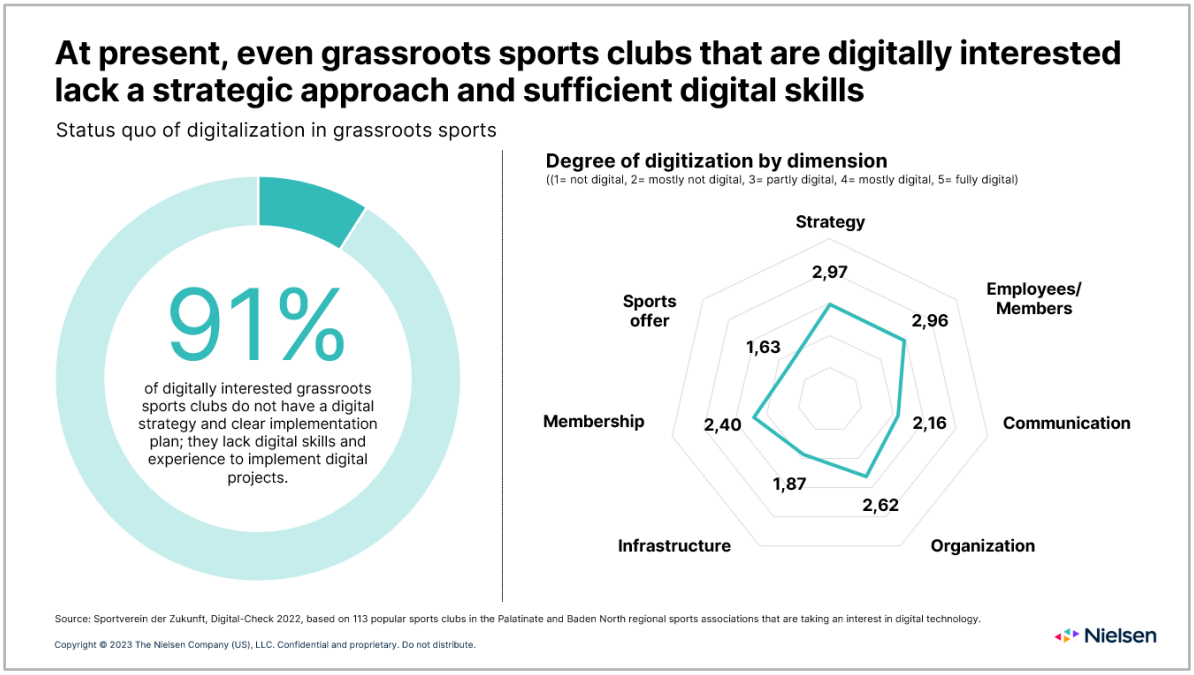
6. Excursus: German Grass-root Sports

German grassroots sports, organized under the umbrella of the German Olympic Sports Confederation, can also offer considerable potential for Dutch technology companies. The DOSB consists of 27 million members organized in 87,000 sports clubs, which in turn are organized under the umbrella of the DOSB in Germany's 16 regional sports federations.[69] The current state of popular sports presents a pressing concern. The ongoing Corona pandemic has resulted in a significant decline in participation, particularly among children and young adults. Without consistent efforts to promote mass sports, it will be increasingly difficult for the industry to fulfill its important social role. Prior to the outbreak of the pandemic, grassroots sports already faced a range of challenges, including but not limited to:

- Recruiting and retaining volunteers for club activities
- Maintain sports offerings (availability of coaches & sports facilities)
- Funding to modernize club infrastructure
- Adapting to changing societal demands (e.g., time- and location-independent training, new sports trends)
- Resources to cope with megatrends such as digitalization

Digitalization presents a significant challenge for grassroots sports clubs. Despite a growing interest in utilizing digital tools and strategies, many sports organizations lack a comprehensive approach and the necessary digital expertise. Furthermore, our findings indicate that while grassroots sports clubs are receptive to digitalization, they require extensive support to effectively implement and utilize digital technologies. It is imperative that well-designed support is provided to assist these organizations in effectively navigating the digital landscape.

Status Quo of Digitalization in Grassroot Sports in Germany [70]



69 DOSB (2023). This is the GOSC. Retrieved from: https://www.dosb.de/ueber-uns/#akkordeon-12384

70 Nielsen Sports / Sportverein der Zukunft (2023). Status quo of digitalization in grassroot sports. For more information: https://www.sportverein-der-zukunft.de/

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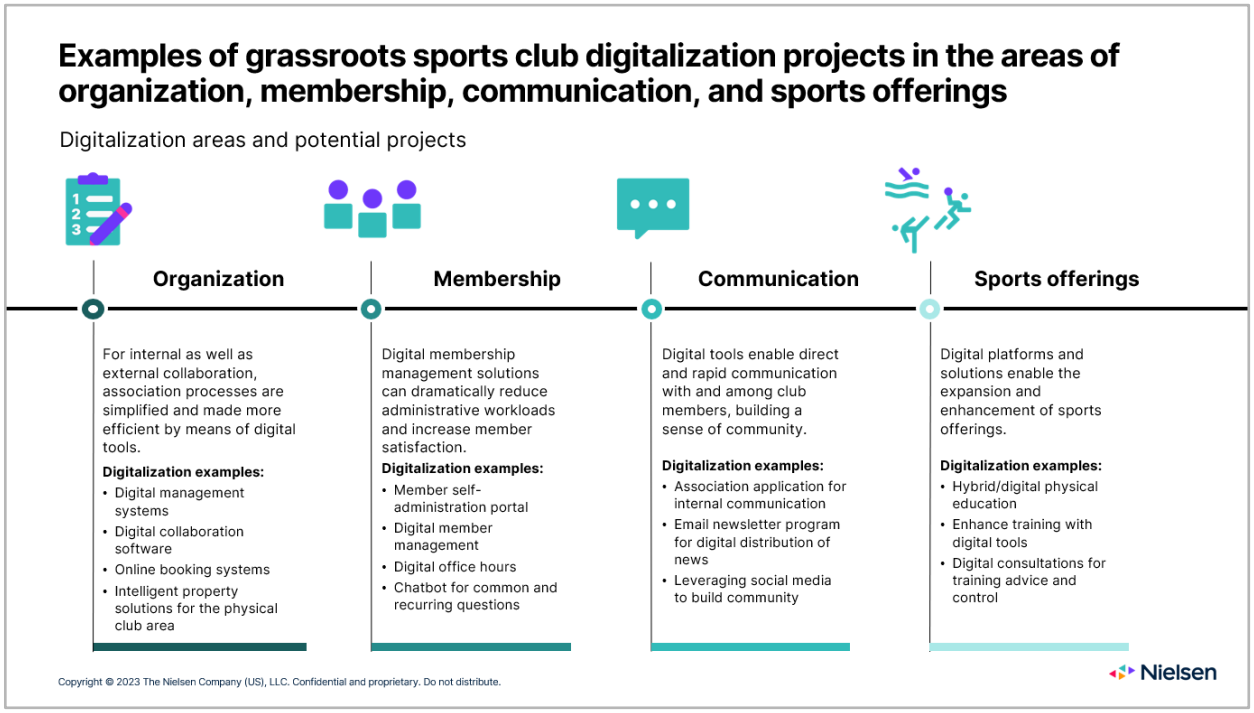
In addition to having a solid digital strategy in place, our analysis has identified six additional areas that are critical to the success of grassroots sports clubs in the digital age.

Firstly, while there is a high willingness among volunteers and members to embrace digitalization, there is a lack of sufficient digital skills and experience to effectively implement digitalization projects. Additionally, we have identified a need for improvement in both internal and external communication, as current efforts have not effectively reached target groups.

Furthermore, the organizational administration of grassroots sports clubs is only partially digitized, resulting in high additional personnel costs due to an outdated system landscape and isolated solutions. The infrastructure of both grassroots sports' clubs and their respective federations often presents significant development needs for digitalization, especially in terms of smart properties. Basic requirements for digitalization, such as satisfactory WLAN coverage, are not being met at a quarter of the grassroot sports clubs.

In terms of membership management, grassroots sports clubs have only partially digitized this process, resulting in high manual effort and limited member self-management capabilities. Finally, there is a great need for development in the sports offerings of grassroots sports clubs, especially in terms of hybrid offerings, the development of training using digital tools, and the broadcasting of competitions.

Digitalization Areas and Potential Projects [71]



In summary, German grassroots sports can represent a significant potential market for Dutch technology companies, with a membership of 23 million people and its 88,000 sport clubs. However, the grassroots sports industry is facing challenges due to the ongoing pandemic and the need for digitalization. This requires a comprehensive strategy and support in areas such as skills, communication, administration, infrastructure, membership management and sports offerings. While the small-scale landscape and smaller budgets per association or club compared to professional sports may be a challenge, the potential for Dutch technology companies to work with German grassroots sports should not be overlooked.

[71] Nielsen Sports / Sportverein der Zukunft (2023). Digitalization areas and potential projects. For futher information: https://www.sportverein-der-zukunft.de/

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The reasons for this are the overall volume of the market, the low level of digitalization(where thus even fewer complex services can add value), and the ability to offer scalable, standardized solutions that are used by many clubs because they are hardly digital. In turn, this means that there is little need to worry about compatibility with existing digital systems.

So what? Dutch technology companies that already offer flexible and cost-effective solutions should consider offering solutions tailored to the small size and limited budgets of these grassroots clubs. This could include offering modular or scalable solutions, using open-source technologies, and providing training and consulting services to help clubs effectively implement and use digital technologies. Another option could be to work with the DOSB to identify brands that are willing to support technology development in their geographic region as a part of their CSR. A mass approach via digital channels and email to reach out to grassroots sports clubs is accepted, with less of a network required compared to the major rights holders in Germany. Thus, the 16 regional sports federations can also be used as an entry point to scale up to their 88,000 sports clubs. Contacts can be found here.[72]

[72] DSOB (2023). Regional sports federations. Retrieved from: https://www.dosb.de/ueber-uns/mitgliedsorganisationen/landessportbuende

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7. Conclusion & Recommendations

In conclusion, the German sports business presents a significant opportunity for tech companies, but success will require a strategic and customer-focused approach. We recommend a two-pronged approach for action: create use cases through lighthouse projects with digitally advanced sports organizations and focus on top tier sports and their associations.

To successfully penetrate the German sports market with digital products and solutions, Dutch tech companies should focus on creating use cases via lighthouse projects at sport organizations that are digitally advanced and leveraging network multipliers. This approach involves identifying key sports organizations as potential partners and working closely with them to develop and implement digital solutions. These solutions can then serve as "lighthouse projects" that demonstrate the value and potential of the company's technology to other sports organizations. In addition, by working with network multipliers such as sports associations and clubs of influential individuals, the company can expand its reach and gain greater visibility within the German sports market.

The German sports market is a great opportunity for Dutch tech companies to expand and benefit from the growing demand for digital solutions. However, a well-planned go-to-market strategy is essential to overcome market challenges and should focus on the four key elements of Product, Price, Place and Promotion. Companies should develop a clear and structured portfolio of relevant products that are innovative and cost-effective and establish credibility through a proven track record. Pricing strategies should be flexible and creative, considering budget constraints. Dutch tech companies should identify the appropriate decision makers and work with sports organizations that already have established structures. Promotion should focus on establishing a strong online presence, a tailored communications strategy, thought leadership, and participating in relevant trade shows and events. Here are Nielsen Sports' more detailed general recommendations:

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7.1. Recommendations for Product

Develop individual solutions based on target groups. To thrive in the German sports industry, technology companies must adopt a strategic and customer-focused approach. This includes developing solutions that are tailored to specific sports, and target groups and engaging in extensive dialogue with potential customers and other stakeholders from the sports industry, such as sport organizations and their fans. To enter the German sports market, providers must first understand the sport and its unique characteristics, including the different types of sports and their organizational structures, such as sports associations, leagues, and clubs. Additionally, providers should be aware of the specific needs and requirements in terms of the special relationship of clubs and fans. By knowing the sport and its specificities, providers can better understand the needs and requirements of the German sport organizations they can adapt their products and services accordingly.

Create a clear and well-structured product portfolio to meet the challenges and needs of German sports organizations. To be successful in this market, products must be relevant and capable of solving the problem at hand, cost effective to meet the budget constraints of rights holders, and provide quick solutions to meet their short-term thinking. It is essential that the product has a positive cost/benefit ratio and is innovative and differentiated from the competition. After all, sports organizations are constantly exposed to standardized offers. This is why it is so important to first get to know a sports organization as a potential customer and then create customized solutions. In addition, the products must be mature and have a proven track record, as German sports organizations are not inclined to take risks and prefer solutions with proof of concept and a good reputation through real project references. This is essential to build credibility and gain traction with rights holders.

Position yourself as experts and consultants within digitalization. Invest in upskilling sport organizations to build up adequate contact person at the rights holder and to be able to discuss content at eye level. For example, by offering (free) training and becoming the first point of contact for digitalization. This can help to build trust and establish the company as a reputable and reliable partner. It is important for Dutch technology companies to invest in the upskilling of the sports organization’s employees and users of their solutions, to prevent dissatisfaction after their departure. This can ensure that the employees and users are able to continue to use the technology effectively and efficiently, even after the technology company's engagement has ended.

Keep it super simple and start with the basics. We recommend Dutch technology companies should prioritize simplicity and focus on addressing the basic needs of sports organizations. This includes breaking down and syncing data silos, which can help sports organizations to better understand and engage with their fans. This approach can help technology companies to stand out in the market and offer value to their potential customers.

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7.2. Recommendations for Price

We recommend flexible and creative pricing strategies for Dutch technology companies entering the German sports market. When entering the German sports market, technology companies must be prepared for the reality that sports organizations may not have large budgets to invest in digital services. In these cases, three options are available to the companies:

1. Enter into barter deals, such as providing services in exchange for advertising or sponsorship rights or tickets

2. Offer services at a cost-only or even free of charge as a pilot project

3. Discuss creative financing options with potential customers, such as funding through sponsors or other stakeholders of the organization

It is important for technology companies to be flexible and creative in their pricing strategy to effectively compete in this market and address the budget constraints of sports organizations.

Make upfront investments and create use cases. Dutch Technology companies that want to thrive in the German sports business must be willing to make upfront investments and create use cases that can be presented to other sports organizations as concrete references of the value and potential of their solutions. This can help to build credibility and establish the company as a reputable and reliable partner. If necessary, Dutch tech companies must make upfront financial commitments to demonstrate value. For example, they should have enough budget to establish their digital product or services with the rights holder as a sponsor and then sell to more clubs. Another option would be to Invest in use cases and give out free "license" to create those use cases as lighthouse projects at major sports organizations.

Demonstrate your Unique Selling Propositions (USPs), added value and return on investment (ROI) to potential customers. This includes highlighting the specific, customized value that your technology provides and demonstrating a concrete and lucrative business model that achieves rapid break-even. In addition, it is important to demonstrate how the customer of the customer (the fans) will benefit from using the digital product/service. Digital technology companies should focus on selling solutions rather than products or services. This means that they should focus on solving the challenges that the sport faces, rather than just selling a product or service. This can include highlighting how the technology will improve the fan experience, such as through personalization, engagement, and access to exclusive content. In addition, a clear business case should be presented that highlights short-term monetary value and addresses potential customer concerns. In the context of sports organizations, it is important to demonstrate how the implementation of a digital product or service can create an independent revenue stream in addition to the core business and reduce dependency on sporting success. Overall, a comprehensive approach that emphasizes customized value, a profitable business model, and a focus on user satisfaction and upskilling will be key to successfully demonstrating the USP, value, and ROI of a digital product or service. Therefore, it is important to have a clear understanding of the challenges you want to solve with your digital product/service and, most importantly, to ensure that the digital products and services are necessary and relevant to the clubs and, in the best-case scenario, make money for the sports club in the short term.

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7.3. Recommendations for Place

In terms of place, identify the appropriate decision makers and start with those sports organizations that have understood and are already driving digitalization. In our analysis of the sports industry, we found that the origin of the service provider is not a critical factor in the selection process. In fact, digital service providers are often seen as innovative and pragmatic. However, there is a general expectation that the client will have a dedicated point of contact within the technology company who is familiar with the German market and that there will be an ongoing personal exchange.

To work successfully with a sports organization, it is also critical to understand the structure of the organization. This includes identifying who ultimately has budget responsibility and decision-making authority, which may vary depending on the scope of the project. Dutch companies should be aware of hierarchical structures and anticipate the need to work their way through the organization, possibly having to convince several people along the way before finally reaching the CEO or managing director. Even at the highest levels of professional sports, resources for outside services can be limited, so targeting the right decision makers is critical to having a viable chance of success in the sports industry.

Visit trade shows and meet with relevant stakeholders in person. While attending trade shows such as SPOBIS[73], SPORTS.TECH.FORUM[74], ARENA SUMMIT[75] or DIGITAL SPORTS & ENTERTAINMENT[76] can provide opportunities for face-to-face interaction with potential clients, it is important to note that these events are often not very effective in generating new business. Instead, it is recommended that you schedule meetings with relevant stakeholders in advance, as they may be difficult to find at the event itself. It is also advisable to avoid having your own booth. Much more important are presentations and live showcases of reference projects on stage.

Consider collaborating with existing accelerator and tech startup initiatives and attend digital events to network and promote your digital solutions. To achieve success in digital transformation, some sports organizations take additional steps such as organizing their own accelerator and startup programs to solicit projects and promote startups from across Europe on specific digital topics and services. We know of the following who already work with sport businesses: TechQuartier (Eintracht Frankfurt & EintrachtTech), HYPE Spin Accelerator (1. FC Köln), and Gründermotor (VFB Stuttgart) and in addition, the blockchain conference "Block im Park" initiated by EintrachtTech.

73 For more information see: https://www.spobis.de/en/

74 For more information see: https://www.sportstechforum.com/

75 For more information see: https://www.stadionwelt.de/arena-summit

76 For more information see: https://www.digital-sports-entertainment.de/

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7.4. Recommendations for Promotion

Promote your services through reference projects, multi-platform marketing, strong online presence, and network engagement. Promotion can also be done by sharing reference projects and success stories from current or past clients, using other platforms in addition to social media such as public speaking at trade shows and conferences, and creating a strong online presence through websites, blogs, and articles in industry publications. Rights holders interact with their network, and former or current clients can help with promotional efforts, provide valuable testimonials, and serve as ambassadors for the company.

Present the value of your product through an accessible business case that demonstrates a short-term ROI to appeal to non-digital sports organizations. Regardless of the channel chosen, it is important to communicate the value of your product clearly and effectively to the customer. Sports organizations expect a short-term return on investment, and this should be demonstrated through a business case where possible. Given that sports organizations may not always have the greatest digital expertise, it is important to keep communication as simple as possible, especially during initial interactions. Complex concepts should be presented in an accessible way to avoid overwhelming the recipient.

Build a network within the sports industry. Networking is a critical aspect for Dutch technology companies looking to thrive in the German sports business. This can be done by building strong relationships with key stakeholders, showcasing capabilities and expertise, collaborating with other companies and organizations, and developing relationships with organizations that do not have the resources to invest in digital transformation. Dutch technology companies can gain a better access by recommendations through other happy customers and a clear understanding of the sports business and opportunities for growth, and thus increase their chances of success. Also, they should contact the large sports marketing companies such as SPORTFIVE or Infront. They often know the sports organizations and their specific needs very well and can act as multipliers or even financiers. Depending on the digital product or service, it may also be helpful to approach the sports organizations' sponsors and other partners. Another option might be to partner with local incubator or accelerator programs, startup hubs and platforms, and position yourself as an innovative company that sports organizations can directly approach.

Establish a strong online presence and customized communications strategy to effectively promote your company and clearly communicate your value to potential clients in the sports industry. In our analysis of the sports industry, we found that a professional and transparent web presence is critical to engaging with decision makers and stakeholders as they conduct simple desk research. This includes a visually appealing and well-structured website, preferably in German or at least English, that clearly communicates information about the company and its team, products and services, and testimonials. In addition, it is important to strategically use social media platforms, particularly LinkedIn, to share relevant content and provide expert insight on current trends to establish thought leadership and maintain a consistent presence within one's professional network.

Use personalized and targeted outreach to avoid being perceived as spam. Cold outreach via e-mail or phone has a limited chance of success, as sports organizations are often inundated with pitch decks and may not have the time to fully understand their value. Dutch tech companies must also work to understand the unique challenges and needs for each potential client and tailor their communications accordingly. This includes deeply researching and identifying the pain points of the potential client, and communicating the value of your service in a personalized way that avoids being declared as spam e-mail.

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8. List of Abbreviation

AI	Artificial intelligence
AR	Augmented reality
AWS	Amazon Web Services
BBL	Basketball Bundesliga
BMWi	Bundesministerium für Wirtschaft und Energie
BVDW	Bundesverband Digitale Wirtschaft
CRM	Customer Relationship Management
DAV	Deutscher Alpenverein
DBB	Deutscher Basketball-Bund
DDV	Deutscher Dart Verband
DEB	Deutscher Eishockey Bund
DEL	Deutsche Eishockey Liga
DESI	Digital Economy and Society Index
DEU	Deutsche Eislauf Union
DFB	Deutscher Fußball-Bund
DFL	Deutsche Fußball Liga
DHB	Deutscher Hockey-Bund, Deutscher Handball Bund
DOSB	German Olympic Sports Association
DRV	Deutscher Rugby Verband
DTB	Deutscher Turner-Bund
DTB*	Deutscher Tennis Bund
DTV	Deutscher Tanzsportverband
DWV	Deutscher Deutscher Wellenreit Verband
ECB	European Central Bank
GDPR	General Data Protection Regulation, General Data Protection
HBL	Handball-Bundesliga
ISG	Information Services Group
NBSO	Netherlands Business Support Office
NFT	Non-fungible tokens
POS	Point-of-sale
ROI	Return on investment
RVO	Dutch Rijkdienst voor Ondernemend Nederland
TFC	The Football Company
USPs	Unique Selling Propositions
VIK	Value in kind
VR	Virtual reality

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10. About Nielsen Sports

We help our customers make the best possible decisions.

As the world's leading research and consulting company in the sports and entertainment industry, Nielsen Sports has been analyzing market and media data, linking Nielsen insights about the media consumption behavior of fans worldwide for more than 30 years. To make the most of this uniquely diverse information, Nielsen Sports continuously invests in new methods and technologies.

As a result, we are already providing more than 1,700 leading brands, rights holders, and media companies around the world with reliable decision-making support and precise recommendations on how to handle complex issues.

For more information visit: www.nielsensports.com

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