



# Sport research infrastructure

An exploratory research in five European countries

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Commissioned by the ministry of Public Health, Welfare and Sport

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# 1. Introduction

## 1.1 Wealth of research

According to the Eurobarometer 2014 (European Commission, 2014)<sup>1</sup> 41 percent of Europeans exercise or play sport at least on a weekly base. These and many other facts can be found in the Eurobarometer. Though this survey has great merits in comparing sport and physical activities EU member states it has its limitations, one of them being that the information presented is on a general level only, with no in depth information. For detailed insights into sports, one has to rely on national research performed by local researchers (Breedveld et al. 2013<sup>2</sup>).

The European Union has recognized the lack of comparable data and stimulates collaboration between experts in member states thru research grants like Erasmus+ and Horizon 2020. However, to date there is no overview of how sport research is structured from country to country. There is no database what kind of research is being performed where, or by whom, and how this research is being funded.

The Dutch ministry of Public Health, Welfare and Sport ([VWS](#)) has asked the Mulier Institute to do an exploratory research into the sport research infrastructure in European countries. In this paper our aim is to shed light on the research infrastructure in five European countries, focussing on the three aforementioned themes (topics, organizations and funding).

## 1.2 Method

Given the exploratory character of the survey, we have chosen to focus on five European countries: the Netherlands, Belgium (Flanders), Denmark, England and Germany. We have excellent relations with experts from these countries and we know that the sport infrastructures in these countries differ from our own.

We used two methods. First, we contacted several country experts, one for every country in the comparison and all well known for their expertise in the field of sport research. With each, we had an extensive interview by telephone. Furthermore, we studied several documents that the experts sent us, e.g. internal documents and national and international surveys.

For each country we describe the main research themes in sport research, funding for the research projects, organizations involved and innovation in sport research. Furthermore we briefly highlight a few eye-catching project and mention some of the leading experts<sup>3</sup>. We also included important websites.

<sup>1</sup> European Commission (2014). Special Eurobarometer 412. Sport and Physical Activity. Brussels: TNS Opinion & Social.

<sup>2</sup> Breedveld, K., Gratton, C., Hoekman, R., Scheerder, J., Stege, J.P., Stubbe, J.H., Vos, S., Mulier Instituut, Sheffield Hallam University, Sport Industry Research Centre, KU Leuven & TNO (2013). Study on a possible future sport monitoring function in the EU. Final report. Utrecht: Mulier Institute.

<sup>3</sup> As suggested by the experts we interviewed and/or by the humble opinion of the researchers.

## Innovation

In the report we focus especially on innovation. Innovation has many different definitions. In the following description we will use the definition as: *innovation is the use of applied knowledge into products, tools and services that, in use, will give a competitive advantage in whatever competition this might be (market, sports, ...)*. As such innovation can come from different sources: from science, from business and from the end-user. In the narrower environment where we talk about, the sports innovation, the end-user is of course the athlete, mostly represented by sports bodies or organisations. Governments in this are only facilitators.

The actual process of innovation takes place in a single, dual or multi-party combination of the three before mentioned sources. In the described countries this is mostly done in a dual party combination (typically sports & science and science & business), which is quite different from the Dutch situation, where in a substantial number of cases innovation is realised through a collaboration of sports, science and business together. This is in the beginning more complicated but in the end more sustainable.

## 1.3 Acknowledgments

We would like to thank Jeroen Scheerder (KU Leuven), Veerle de Bosscher, (VU Brussels), Helena Wittock (VU Brussels), Ilse De Bourdeaudhuij (Ghent University), Henrik Brandt (Idrætens Analyseinstitut), Andrew Spiers (Sport England), Andreas Pohlmann (Bundesinstitut für Sportwissenschaft) and Koen Breedveld (Radboud University Nijmegen / Mulier Institute) for their invaluable contribution to this project.



## 2. The Netherlands

### 2.1 Focus within the sports research infrastructure

Research within the sports research infrastructure in the Netherlands is divided in three main themes: Sport & society; sport & health, (sport & medical research); and elite sport, (or performance enhancement). The first of these, research into sport & society, has a tradition that goes back to the early '60. Around that time, the government formulated explicit policy on sports and started investing in sports. The first (statistic) researches on sports participation and scientific researches started taking place. The main focus in research was on 'sport & society' but the theme 'sport & health' got some attention as well. 'Performance enhancement' is a field of interest in sports research that is quite young and was added only a few years ago when performance in elite sports became more important politically. Some fields in sports research are slightly neglected in the Netherlands, e.g. economical sports research. There's only one professor in sports economy, and a limited number of sports economists that carry out research concerning the sports economy. Other neglected fields are sport & (physical) space and spatial planning; the government hardly invests in research into these subjects, (despite of the fact that most of the government investments concern investments in sport facilities).

The last few years, several channels have been initiated to collect, communicate and spread results of research on sports. These initiatives include the '[Rapportage Sport](#)' 2003, 2006, 2008, 2010, 2014 and the Mulier Institute 'Yearbook Sport', both 'capita-selecta' kinds of books that capture the main developments in sport science and in sport policies, the annual '[Day of sports research](#)' (first held in 2010 and since then yearly repeated), and the website [Sportopdekaart.nl](#). In 2016, two organizations (NISB and Onbeperkt Sportief) will join force to jointly develop a 'kennisportal' on sport that should bring all existing research together on one website.

The government finances these initiatives. The ministry of Public Health, Welfare and Sport (VWS) is responsible for granting sports research related subsidies. In sports research on topics in the field of physical education, another ministry is responsible for financing: the ministry of Education, Culture and Science (OCW). Only recently OCW has developed plans for a more or less structural research infrastructure.

### 2.2 Financing

#### Ministry of Health, Welfare and Sports

The ministry of Health, Welfare and Sports (VWS) finances sports related research. VWS has an annual budget of € 140 million available for the sports field. About € 10 million of that goes to knowledge and research. Half of this is granted to the Netherlands Institute for Sport & Physical Activity ([NISB](#)) which is the leading institute in valorisation and spreading knowledge. This means connecting knowledge, research, practices and policy. About € 2 million (of the € 10 million) goes to organizations that help VWS monitor the sports field, like the [Mulier Institute](#) and the CBS and in particular two governmental research institutes: the Netherlands Institute for Social Research ([SCP](#)) and the National Institute for Public Health and the Environment ([RIVM](#)). The remaining € 3 million goes to a national scientific research program, called the Netherlands Organization for Scientific Research ([NWO](#)). VWS is able to coordinate a lot within sports research. It coordinates the € 5 million budget granted to NISB by discussing their work program. For the € 2 million for monitoring, institutes must present

programs and VWS reviews these and coordinates between institutes. The budget for purely scientific research is coordinated through NWO-programs.

### National sport programs

The scientific sport research program is coordinated by NWO, the leading institute in scientific research in the Netherlands. Usually, such programs do not focus on sports particularly. That is why VWS invests directly in scientific sports research. The NWO sports focused research program started in 2012. The program lasts for 4-years and has the size of € 10 million. Besides VWS, this program is also financed by other organizations such as the Netherlands Olympic Committee ([NOC\\*NSF](#)) and NWO itself. Within this budget of € 10 million, about 20-30 projects are financed, divided between the three main themes. Traditionally, NWO only coordinates purely scientific research. In this sports program 2013-2017, the policy relevance is an important criterion in deciding which projects will be financed. These projects are often policy based, scientific research. For the sport research project, VWS is part of the advisory commission, along with a few organizations that focus on sports policy like local governments and associations and reviews which projects will be financed. Outside the NWO sport program, academics often experience difficulties in relating sports to the more general scientific calls that NOW has to offer.

## 2.3 Sports research organizations

### Universities

The Netherlands has about 30 professors related to the field of sports, 10 or 11 have the actual word 'sport' in the name of their chairs. There are 14 universities in the Netherlands; four of those have recently founded institutions or networks to research into sports in a multidisciplinary way<sup>4</sup>. The Utrecht University ([UU](#)) is leading within the field of sports & society. However, sports as a theme is not a topic within each university. At the VU University ([VU](#)) in Amsterdam there is a group of sports law researchers. In the field of sports & health, medical aspects of sport, the Netherlands know six medical academic centres, which focus on treatments of sports injuries and the theme of obesity. Here, sport is seen as a tool, not as a purpose. The [Maastricht University](#) is quite strong in this field. Also, within the study on health sciences, sports related research is carried out. Research on elite sports or performance enhancement is mostly carried out at the faculty of movement sciences, often connected to biology (and sometimes psychology). 4 universities focus on this theme, 2 of them are leading: the VU and the University of Groningen ([RUG](#)). Also, all 3 technical universities are engaged in NWO-programs on performance enhancement.

Scientific education on the field of sports is marginally represented. The UU has one clear master: public administration on sports. The RUG has a minor of 30 credits. Besides these courses, there are no integral programs concerning sports education at universities. Different courses exist in the bachelor-phase but these are elective.

<sup>4</sup> RUG: Sport Science Institute Groningen (SSIG), VU Amsterdam: Amsterdam Institute of Sport Science (AISS), UU: Sport & Society (S&S), Radboud Universiteit Nijmegen: Nijmegen Sport & Exercise Sciences (NSES).

## Universities of applied research

Universities of applied sciences (hbo-institutions) are of great value to research on sports. At these institutions research is done by experts who are part of a so-called 'kenniskring' (knowledge network), chaired by a lector. A lector is a kind of professor on the level of hbo. This position is installed to reinforce practice-based research at hbo's. The government has established a program ([Raak](#)) where lecturers can receive subsidies for research. About 20-30 lecturers focus on the area of sports. The core of sports research at the hbo lays in the 6 institutions that offer higher education in physical education (ALO)<sup>5</sup>. One or two, sometimes three lecturers per ALO perform practice-based sports research. Outside the six ALO's, another four hbo-institutions perform sports research on a systematic basis. There are 38 hbo-institutions in the Netherlands. Four to five professional sport-masters exist at the hbo. One of them has been taught at ALO's for years now.

## Para-academic organizations

The [RIVM](#), [SCP](#), [TNO](#) and [Mulier Institute](#) can be described as para-academic organizations. These are scientific research organizations yet not universities and are being financed by the government. Mulier Institute manages research on sport facilities and sport organizations (supply-oriented research). RIVM and SCP mainly focus on sports participation and physical activity with the emphasis on statistics. They summarize data and reports for the public and make these available through their own websites. TNO also focuses on health issues.

## National statistical office

Statistics Netherlands ([CBS](#)) has a long tradition when it comes to sports research. Statistical attention for sport originates from the '50's, so CBS has a significant amount of statistical data. Many projects have a long research tradition, which makes monitoring sport possible. CBS gathers sports participation statistics, sports supply statistics and has been focusing on sports economy the last few years, including the labor market. In other countries, the national statistical office does not always have this kind of data collected in the past.

## Practice and policy oriented organizations

[NISB](#) is the leading institute when it comes to valorisation and spreading knowledge. [NOC\\*NSF](#) mostly invests in knowledge derived from their own organization. They will use membership numbers, club information etc. NOC\*NSF also finances part of the NWO-program. [ZonMw](#) is a program at NWO focused on innovation in health and care. A few organizations develop activities on specific fields. In the field of innovation, [InnoSportNL](#) plays an important role. It is established to connect scientific research with the business sector. InnoSportNL is financed by the ministry of Public Health, Welfare and Sport and is founded by NOC\*NSF and TNO. Other organizations that receive governmental funding and that are worth mentioning are SafetyNL ([VeiligheidNL](#)) and the Association of Sports Medicine ([VSG](#)). SafetyNL deals with sports injuries and VSG is about sports health care with a focus on monitoring and valorisation.

<sup>5</sup> An ALO exists in Groningen, Zwolle (both in the North of the Netherlands) , Amsterdam, The Hague (both in the West), Eindhoven (South) and Nijmegen (East).

## 2.4 Innovation

Already in the early 2000's innovation in sport has become a structural topic in the Netherlands. Built around a collaboration between NOC\*NSF and TNO and incubated in the Eindhoven area, initiatives like Sports and Technology and Innovation for Gold (a Ministry of Economic Affairs supported project to initiate collaboration between science, business and sports, carried out by NOC\*NSF and TNO), built the pathway to the birth of InnoSportNL in 2006. Through this and other stakeholder-initiatives the collaboration in the Netherlands between the various partners from sports, science and business has taken a rise and has put innovation in sports higher on the Dutch agenda. Internationally this is seen as an interesting example of public-private collaboration.

The Dutch parties not only have created this benchmark in the Netherlands but also have initiated an European network on Sport Innovation called EPSI. This body is now creating substantial impact on EU policies on sports innovation.

### *Companies*

Although there are no big brands that operate on the sports product market (like adidas or Puma) there is an interesting number of larger companies outside the sports sector that enter the sports arena. Also a significant number of SME's have developed a world class standard in a specific niche in sports.

- [DSM](#) as an innovation partner of NOC\*NSF has put substantial effort in the period 2002-2012 in realising various innovation projects, alone or in collaboration with different partners. At present the effort is much lower and more focused on nutrition.
- [Ten Cate](#) started their artificial turf business in the 80's. In the end of the 90's they entered the professional football market and at certain point the artificial turf division of Ten Cate gained both a large market share in the world of artificial turf as realised about 50% of the profit of Ten Cate.
- SME's like [MYLAPS](#) (that also acquired ChampionChip), [Ortec](#), and [Infostrada](#) have gained a good world market share on their own specialisation. Typically these companies work with high tech sensors and data and create added value in performance monitoring. They innovate to be able to hold their competitive advantage.

Apart from these sectors also in the building sector sports infrastructure is a substantial (international) market, where many architects, building companies and suppliers operate (Dutch Sports Infrastructure).

### *Scientific parties*

- [VU University Amsterdam](#) has a long tradition on sports science (under the name of human movement science), with a focus on performance in cyclic sports (speed skating, cycling). In collaboration with sports and intermediaries like InnoSportNL a number of innovations have been realised in various sports (rowing, swimming, gymnastics, speed skating). Since 2014 a number of Amsterdam partners have united themselves in the Amsterdam Institute of Sport Science ([AISS](#)).
- Just like the VU the [University of Groningen](#) has a long tradition on human movement sciences which in sports translates into knowledge on team sports (e.g. football, handball) and on talent development. Around Groningen a collaboration on sport science has taken shape into the Sport Science Institute Groningen ([SSIG](#)).
- In the recent years nutritional knowledge from the [Wageningen University](#) has been applied into sports, also in collaboration with the University of Applied Science Arnhem/Nijmegen ([HAN](#)). Amongst others this has led to the set-up of [Eat2Move](#), a collaboration of various partners in Gelderland to develop and apply nutritional knowledge to create innovations in sports and medical care.

- Technical University Delft ([TUD](#)) has collaborated in a large number of innovation projects on sports which results into an impressive portfolio of results, for both recreational sports and elite sports. These activities have led to the establishment of the Sports Engineering Institute in 2014 as well as sports engineering as a master course. TUD also has developed a field lab on sport stimulation.
  - In the recent years the Technical University Eindhoven ([TU/e](#)) has profiled itself more and more on the field of sport and its effect on society under the theme People, Sports, Vitality. This also led to an active contribution to the InnoSportLab Sport and Move! In Eindhoven.
  - The Hague University of applied Sciences ([HHS](#)) is of the numerous universities of applied science the one that has been involved the longest in the field of sports innovation (since the mid 90's). Especially in the field of adaptive sports they have developed a large track record.
- *Sports/Intermediaries/Government*
- As the central coordinating body of the Dutch Sports NOC\*NSF invests in both sports and science (amongst others as a co-founder of the Sports Research program coordinated by NWO/STW) and innovation projects (bilateral with companies or in collaboration with bodies like InnoSportNL). Sports in NL does not have institutes like the EIS in the UK to support their sports program with scientific input. However through InnoSportLabs (see InnoSportNL) this service is more and more provided.
  - Founded in 2005, Sports&Technology ([S&T](#)) operates as a facilitator and an intermediary for sport innovation in the Brainport area of Eindhoven. It does not have means of its own but directs public funding to private initiatives. It supports the strategic goals of both the city of Eindhoven as the Brabant province on innovation in sports.
  - Founded in 2006 InnoSportNL ([ISNL](#)) has developed an innovation program amongst 4 thematic lines (products, information systems, nutrition and accommodation) in sports. It also developed 6 [InnoSportLabs](#), where sport is supported in training and in innovation projects. Central government funding of 15 Mio Euro has been matched with 25 Mio Euro of other sources in 10 years to create a large number of collaboration projects and activities where business, science partners and sports have gained their advantage. These activities have created an active network in NL on innovation in sports.

The latter 2 organisations can also be seen as open clusters on sports innovation and as such participate in European funding schemes.

## 2.5 Best practices in the sports research infrastructure

The Netherlands has an excellent tradition in the field of sports participation research. This tradition originates from the early '50's and makes it possible to have thorough statistical data. Large-scale surveys are the backbone in this kind of research. Over the last few years more and more is invested in other themes such as sports accommodations and effects of sport.

Another powerful aspect of the sports research infrastructure of the Netherlands is connecting universities with statistical institutes and para-academic organizations. This connection is strong, tighter than in most other countries. There is also a strong focus on policy making. The strong connection between academic science, statistics and policy is a very well developed aspect of the Dutch infrastructure.

### Sport Club Monitor

In 2000 the Mulier Institute and the national Olympic committee NOC\*NSF started this survey among sport clubs. The aim was to monitor developments in the domain of sport clubs, regarding some general characteristics (e.g. type of sports and size) and topics like members, staff, volunteerism, finances, policies and bottlenecks. Every year there was an omnibus questionnaire and/or a mere thematic one. Between 2000 and 2014 there were ten omnibus surveys.

For the surveys the [Sport Club Panel](#) is used. This panel consists of approximately 1.800 sport clubs. The members are to a high extent representative for all the 27.000 sport clubs in the Netherlands.

Recently Mulier Institute has merged the questions that were frequently used through the years. This created an unique data file (3.686 cases, each case representing a sport club in a certain year) that offers possibilities for analyses that were not available before, like trend analyses and testing for statistical significance between years.

Contact: [Janine van Kalmthout](#), [Harold van der Werff](#)

### Guidelines Sport Participation Research (RSO)

The RSO is a standardized questionnaire made to map the frequency, type of sport, sports form, type of organisation and use of sport facilities of huge population groups. Around 2000 this instrument was developed by the legal predecessor of the Mulier Institute, commissioned by the ministry of Public Health, Welfare and Sport and in consultation with representatives of Statistics Netherlands, COS, DSP-group, VSG, UvT, NOC\*NSF, NISB, SCP and various municipalities. The Mulier Institute coordinates the RSO.

RSO's aim is to standardize the large-scale population surveys regarding sport participation, so that results of the different surveys will be more comparable. This concerns both the basic module and the additional modules. Also the RSO contains agreements regarding processing and presentation of the data. There are guidelines for the purpose of research methods, research population, use and composition of the list of sports, missing values and weight procedures.

Contact: [Remko van den Dool](#)

### **Congresses**

- Dag van het Sportonderzoek.

## **2.6 Leading experts**

[Frank Backx](#)

[Peter Beek](#)

Utrecht University (sports medicine)

VU University Amsterdam (motor control and coordinated movement; perception-action coupling; perceptual-motor skill acquisition and expertise)

<a href="#"><u>Maarten van Bottenburg</u></a>	Utrecht University (societal meaning of sports, top sports climate, sport participation)
<a href="#"><u>Koen Breedveld</u></a>	Radboud University Nijmegen /director, Mulier Institute (trends and developments in sports)
<a href="#"><u>Ruud Koning</u></a>	University of Groningen (economics of sports)





## 3. Flanders

### 3.1 Focus within the sports research infrastructure

The [Ghent University](#), the [KU Leuven](#) and [VU Brussels](#) are universities in Flanders that have a full academic education in the field of sports. These universities have a strong tradition in exercise-physiological research in to different types of sports (e.g. rowing), neurological research (movement and the mobility of movement), sports biomechanics, physical activity, coaching, as well as in the human sciences such as social contexts (the social meaning of sports), (high) performance management, sports policy and top-level sports. Regarding the last topic the VU Brussels coordinates an international program called '[SPLISS](#)' (Sports Policy factors Leading to International Sporting Success, a worldwide international network of research collaboration) and it has a spin-off, '[Double Pass](#)', that provides quality labels to sports clubs. The field of sports management is a relatively new topic in the field of sport research, starting to develop in the 1990s.

But the three universities that were mentioned also have specific traditions concerning sports research. The KU Leuven has a longstanding research tradition into sports participation that runs since 1969. Since 1995 Ghent University is involved in research regarding the promotion of movement and physical activities. At VU Brussels youth sports research (ethical aspects, role of parents, target groups) has been a topic of interest since the end of the eighties. Nowadays panel research at sport clubs, fitness centres and local governmental sport services makes it possible to focus more and more on sports organizations.

Universities of applied sciences are more aimed at practice orientated, practice based research. Besides physical education there is an increasing focus on sports policy, sports management, sports didactics and some biomechanical research.

The Survey into Social-Cultural Shifts in Flanders ([SCV-survey](#)) of the Flemish government originates back to the 1990's in which social-cultural shifts in values and behaviours are investigated. In this study, sport is a structural addressed topic. Through this study, information is obtained on the amount of time people spend playing sport and which type of sports they practice.

### 3.2 Financing

The Flemish Ministry of Culture, Youth, Sports and Media ([CJSM](#)) has been involved in organizing projects (e.g. pilot projects) that also have a research component, or that are managed by an university. [Bloso](#) is a national party that is responsible for the funding of sports federations and sport services. Bloso also finances a number of chairs in which research is conducted, for example in the field of top sports.

Universities rely more and more on external financing. Academics are expected to look for resources for their research. In the past first cash flows, resources within the university, were given. Now, the focus lies on second, third and fourth cash flows, such as resources from the private, commercial sector. These resources can be profit or non-profit organizations. Non-profit organizations are often not rich in their resources but professors manage to gather considerable amount of external financing. There are various organizations that support scientific research at universities. For example the Research Foundation - Flanders ([FWO](#)) supports ground-breaking fundamental research at the universities of the Flemish Community. The FWO also stimulates cooperation between the Flemish universities and other research institutes. The Agency for Innovation through Science and Technology

(IWT) supports innovation in Flanders by granting subsidies (approx. € 300 million annually) to small and big companies, universities, universities of applied sciences and other Flemish innovative organizations, whether individually or jointly.

Universities of applied sciences can use financing in practice oriented scientific research, PWO's. The budgets are available within their institute or they can rely on governmental resources. Research is often done within the institute but researchers also search for collaboration with universities. The size of these funding is not clear.

### **National programs for sport research**

The government at the Flanders level has had a strong input in financing sport research. The governmental funding of sport research lies in the [Flemish Policy Research Centre on Sports](#) (supported by the Flemish government). A number of projects in the three universities with full academics in sports are subsidized by this fund for four to five years. 100% of this funding goes to scientific research by these universities in the broader field of sport sciences and movement sciences, related to the sport policy practice. Sports is one of the 21 policy themes that is subsidized by the government. The financing of these policy research centres stops at the end of 2015. At the moment, the government is uncertain if they will continue this form of funding due to political reforms. This means that universities do not know yet if they can continue to carry out this kind of doctoral research the next four to five years. The intention is to focus more on ad hoc projects, short-term, focused and mostly policy based kinds of research projects. Outside the Flemish Policy Research Centre on Sports, the government is funding more and more short-term projects.

The budget of the Flemish Policy Research Centre on Sports is approximately €595.000 per year between 2012 and 2015, with a total of €2.338.000. This amount goes entirely to the three universities. The VU Brussels receives the biggest budget since next to conducting research, they also are in charge of the coordination of the policy research centre.

## **3.3 Sport research organizations**

### **Universities**

Three out of five universities in Flanders have a full academic education and research department with a team of sport researchers in movement sciences: the [Ghent University](#), the [KU Leuven](#) and the [VU Brussels](#). The other two universities, the University of Hasselt and the University of Antwerp have no structural science in the field of sports and no professors who focus specifically on sports. Some research in relation to sports is done, for example from an economic, political, biomechanical, medical or juridical point of view.

### **Sport research at universities of applied sciences**

About fifteen to twenty universities of applied sciences in Flanders have education with a focus on sports. Especially sports management is becoming increasingly popular. Practice based research is done at these institutes. More and more doctorates with a strong focus on research are connected to universities of applied sciences. Universities of applied sciences have a strong tradition in the field of teaching education and teaching science. Research in to sports policy and sports management receives more and more attention.

### Para-academic, practice and policy based organizations

Flanders has a strong academic structure in the field of sports research. Also, a lot of policy based and practice orientated research is carried out at universities, with a scientific founded base. Therefore, there is no comparable structure in Flanders like the Mulier Institute in the Netherlands because different types of researches and expertises are present at universities. The government coordinates these researches to some extent, in cooperation with the sports sector. Outside universities, some organizations provide research in the field of sport. The Flemish Institute for Sports Administration and Recreation Management ([ISB](#)) is an association for the local and regional sports and recreation policy. It carries out its own, structural research, e.g. in the broader field of sports accommodations and sport infrastructure. ISB also focus on research regarding neighbourhood sports and local sports. This research may have no founded statistical base but is still decent and policy and practice based.

The Vlaamse Sportfederatie ([VSF](#)) is similar to the 'NSF' as part of NOC\*NSF in the Netherlands. The VSF serves as an overarching organization for 82 Flanders sports federations and it supports and represents these federations. The VSF contributes to the sports policy in Flanders with a focus on stimulating the sports participation.

Founded in October 2014 [Blosio-KICS](#) is an institute that collects and distributes sport related scientific and policy based research (digital library). It also connects Flemish partners in the field of sports and represents the interests of sports in various strategic structures. In that way it resembles NISB in the Netherlands, though Blosio-Kicks is part of the Flemish government.

The school sports sector, the extracurricular school sports is the domain of the Foundation Flemish School sports ([SVS](#)). This organization has not provided too many research although, however on many occasions SVS is involved in research at universities as a partner.

[Vlabus](#) is an organization that focuses on topics related to sports and employment. Over the last two to three years it has carried out an increasing deal of research in this specific field.

An organization worth mentioning is the International Centre for Ethics in Sports ([ICES](#)). Its main focus is on sports and ethical issues and the ICES provides education material as well as research projects.

### National statistical office

The three communities in Belgium - Flanders, Wallonia and the German speaking community - have their own statistical offices. Belgium as a whole has Statistics Belgium ([Statbel](#)). Statbel mostly gathers studies and research results. They do not perform specific sports research. The national household-family studies also cover a little sport but not as extensive as the statistical data on sports that the three universities have.

In addition each year the Research Agency of the Flemish Government publishes the report 'Flemish Regional Indicators' (VRIND), with tables and graphs regarding all topics in which the Flemish government is involved, including sport (e.g. sport participation, frequency and sport club membership).

## 3.4 Innovation

Although Belgium consists of two major parts, the French speaking Wallonia and the Dutch speaking Flanders (and third region is Brussels), the major efforts on science and innovation are in the Flemish part, we therefore focus on Flanders. Research and innovation programs have been strong lately in

Flanders, the economy is growing and business activities are strong. Also on sport science a long tradition exists, not only on university level, but also on 'Hogeschool' level (university of applied sciences). National coordination on sport and sport support is difficult in Belgium, but on regional level (in particular in Flanders) this is quite strong. This has recently lead to a number of innovation initiatives in Flanders, inspired by their northern neighbours, the Netherlands.

#### *Companies*

- With some exceptions (like e.g. [Golazo Sports](#) that organises many sport events, amongst others the Tour de France), there are few companies in the sports that can invest substantially in sports innovation. This is the reason that a number of companies that work in the cycling sector have come together in the [Cluster Flanders Bike Valley](#). Cluster Flanders Bike Valley was established in 2013 as one of the first bottom-up clusters in Flanders. As an open Innovation Centre for the Cycling Industry, the cluster was founded by 4 local SME's, together with one knowledge institute. The amount of members grew to more than 40 now. More than 50% of the members are other SME's which come from a diversity of sectors (not only the cycling sector) like electronics, design, ICT, Healthcare. Flanders' Bike Valley focuses on 6 major topics: Mobility, Sports, Safety and Healthcare, Science & Technology, Industry & Government and Tourism. Flanders' Bike Valley organizes partner matching events (often together with other clusters/valleys), is setting-up breakthrough open innovation projects for multiple partners and focuses on joint internationalisation and incubation in cooperation with BikeVille Incubator.

#### *Scientific parties*

- KU Leuven has a long tradition on sports science, with medical and physiological accents and a focus on performance measurement. Since spring 2015 the KU Leuven Research & Development launched Sports.Tech together with Flanders Smart Hub and the province Vlaams-Brabant. It is a platform where athletes, scientists, entrepreneurs and policymakers meet to improve sports performance, prevent injuries and to aid coaches and referees on the field. It is expected that innovation activities will follow.
- Also the Ghent University has a faculty on sports science, with (bio)medical and physiological accents and a focus on training and management. The university has recently (2013) started [Victoris](#) (Valorisation Centre Technology, Research and Innovation in Sports) in order to support the valorisation of the scientific and technical knowledge in sports. Prof. Dirk de Clercq is a well-known driver behind this initiative. They have recently organised an open innovation Event in April 2015.
- As first university of applied studies in Flanders [Hogest University of Applied Science Kortrijk](#) launched in 2011 the bachelor Sport and Exercise. Due to its participation in the EU project ProFit it established a field lab for sport and innovation in 2014, as a centre point for innovation activities.

#### *Sports/Government*

- Bloso-KICS promotes applied sport research and policy preparatory and policy supportive research, and it also carries out scientific research itself. Amongst that is a five-year study on the physical fitness of Flemish youth: the so-called barometer of the physical condition of the Flemish youth. Since 2007, a Support Centre for Policy Research Culture, Youth and Sport exist. This organization carries out research commissioned by the Flemish government. Bloso will organise a first Flemish sports innovation congress on 15 October 2015.

### 3.5 Best practices

A strength in the field of sport research in Flanders is the amount of pioneers work that is done. The oldest university of applied science for physical education is located in Ghent. It is founded in 1908, so it has a tradition of more than 100 years in the field of physical education. Aspects of physical education, and later also movement sciences, have been academic institutionalized for a long time.

Another strength in Flanders concerning sport research lies in the field of exercise-physiology. Both the universities of Ghent and Leuven have international high-standard departments that carry out highly respected research in this field.

A challenge that Flanders faces concerns the valorisation of knowledge and publication of research in the field of sport science. Scientific results are published in international journals. Mostly experts in the field of sport science read these articles, there is no optimal valorisation of research results to the field and towards policymakers. An existing organization in Flanders that focuses on informing policymakers and the field is Bloso.

#### [SPLISS](#)

The Sport Policy factors Leading to International Sporting Success (SPLISS) network of organizations coordinates research in the field of high performance sport policy and its relation to elite sporting success. Outcomes of research are shared with policy makers, the National Olympic Committees, international (sport)organizations and researchers worldwide. SPLISS has built methodological and theoretical expertise on determinants of national success in elite sport. It has developed knowledge into the effectiveness and efficiency of elite sport policies of different nations.

SPLISS was initiated in 2002 and is coordinated by the VU Brussels. Since 2009 the group has set up a new international collaborative project with partners in 15 countries, over 3000 elite athletes, over 1300 elite coaches and more than 240 performance directors. The project is a collaboration of 43 researchers and 33 policy partners worldwide. The strength lies in the strong international collaboration in which information and knowledge is shared. Not only scientifically but the strong partnerships with national policy makers is also unique.

Contact: [Veerle De Bosscher](#)

### 3.6 Leading experts

It is difficult to name five experts in the field of sport research because of the amount of professors that work in this field. These are some of the leading experts:

[Jeroen Scheerder](#)

KU Leuven (participation in sports clubs, management of sports clubs, consumption of sport)

[Trudo Dejonge](#)

KU Leuven (sports and economics)

<a href="#"><u>Veerle De Bosscher</u></a>	VU Brussels (sport management, international comparisons, measuring competitiveness, youth and sport development, strategic and performance management in sport)
<a href="#"><u>Marc Theeboom</u></a>	VU Brussels (educational and policy-related aspects of (youth) sport in general and specific target groups in particular)
<a href="#"><u>Ilse De Bourdeaudhuij</u></a>	Ghent University (health promotion, intervention studies, social and environmental determinants of behaviour)
<a href="#"><u>Greet Cardon</u></a>	Ghent University (assessment of physical activity and fitness in children and adolescents designing questionnaires and objectively measuring physical activity)

## 4. Denmark

### 4.1 Focus within the sports research infrastructure

Sport in Denmark comes largely from the civic civil society. There has been limited interference from the public sector in that area. This is reflected in science in many ways. Until 30, 40 years ago sports science in Denmark has mainly been pedagogical, teacher and instructor education, and research in how to work with that. In addition, there has been natural sciences, with topics like how does physical activity affect the body.

The first real university sports institute was in Copenhagen: the department of Nutrition, Exercise and Sports at the [University of Copenhagen](#). This originated from a merge between schools of physical education, the Laboratory of Human Physiology and the Department of Sports Humanities

It took until 1970 the second institute came, Odense University (now called the [University of Southern Denmark](#) in Odense). In 1997 [Aarhus University](#) followed with a department of Sports Sciences, mainly aimed at educating gymnasium teachers until the department got a full university programme with candidates in 2008. Because if a person wants to teach in a gymnasium (which is a youth education after basic school) he has to have an university education. Then in 2007 [Aalborg University](#) opened the fourth institute of sports at university level in Denmark. In recent years there has been a heavy growth in the number of university level education offers in sports science in Denmark.<sup>6</sup>

In Denmark there is much specific sports related education that has been founded since 2000 , for example into sports management or specific educations like green keepers, event managers etc. These educations are almost all pretty new. Sports economy does not have a long history if you look at all the university educations in Copenhagen, Odense, Aalborg and Aarhus. To be a student there, you actually have to pass a physical test on top of your grades.

Traditionally a lot of the education on what we would call sports management or sports leaders has been undertaken on a non-formal basis within the education systems of the national sports organisations, the Sports Confederation of Denmark ([DIF](#)) and the Danish Gymnastics and Sports Associations ([DGI](#)).

The educational system in Danish sport used to be mainly focused on non-formal education. This has been the picture until about 2000. In the last 15 years there was a kind of explosion because sport has become an economic sector and a more important sector within health and welfare. Until then sport was, apart from the school system, almost exclusively seen as a leisure activity, as part of civil society. It is also something that society needs to provide to everybody, from the point of view that physical activity is important for health reasons. Within the last 15 years there is a huge movement where sport has been partly focusing on sports and event management or health related issues.

Another direction has been that sport has moved formal into health. During the last 5 years all the sports departments of the universities have been merged into health faculties. In Copenhagen it is Sport & Nutrition, in Aarhus the Institute of Sport and Public Health. In Odense it has always been the

<sup>6</sup> From p. 47 here: <http://www.idan.dk/vidensbank/udgivelser/idraetsrelaterede-uddannelser-oq-kurser-i-danmark/fe9d35f2-c51a-46bd-bab0-9fb000de5e03>

Institute for Sport and Biomechanics (they also educate chiropractors). In Aalborg it was part of health and medicine, where there has always been a very strong emphasis on physical activity.

While all of this happened, some of the university colleges (meaning universities of applied sciences) have seen a new market in Sports Management. Many new education programs have emerged on this topic and now there are four or five university colleges and two additional ones are going to provide sports management or sports economics programs. These new programs emerge at university colleges, not at the universities. Still, by far the biggest sector in sports research are the universities, which educate teachers and pedagogues and teachers for the public school. Universities have their own research into sports pedagogics and sports.

The picture is confusing and nobody has the full picture of what the Danish system is, because there is no overall strategy for sports related education and science. Things have emerged really quick in the last 15 years as part of local development of education institutions or as part of regional aspirations to build new education institutions, not as part of an overall strategy.

## 4.2 Financing

The ministry responsible for Sports is the [Ministry of Culture](#). Until two or three years ago the ministry had a Committee for Sports Science, which had about 670.000 euro's to distribute for sports research every year. This [committee](#) then merged with a science committee of the Ministry of Culture, but the money pool of 670.000 euro's still remains as part of that pool that also funds science into museums or music or whatever. The 670.000 euro's is reserved for sport, and traditionally half of that has been humanistic and half of it for natural sciences.

There are also general research grants. The [Danish Council for Independent Research](#)<sup>7</sup> and the [Innovation Fund Denmark](#)<sup>8</sup> are two big sources of research funding mainly aimed at the universities, which can apply for a grant. Sport research is one of many research areas that can be funded by these two organizations. Also university colleges can apply for a grant if they have research departments. However, the amount of money awarded to sports related research is very limited.

Furthermore, the universities have their own basic grants that they can use. According to a survey in the Nordic countries (Haskell, Bärtsch et al., 2012) the universities in Denmark receive funding for sport research from the national government (45%), private foundations (30%), national industry (9%) and international grants (16%). In the period 2006-2010 the average amount of funding per research unit was € 12.8 million per year.

In addition, in the last five to ten years big private foundations have started investing quite a lot of money in sports. Many of the big initiatives in Denmark in sports research are actually at the moment funded by private foundations. There are two major players. The first is [TrygFonden](#), which invests in

<sup>7</sup> In February 2015 the Danish Council for Independent Research | Humanities awarded € 7 million euro (DKK 20 million) for scientific research, conferences and journals. In February 2014 the DCIR | Social Sciences awarded € 6 million euro (DKK 17 million) for scientific research, conferences and journals. In both calls no sport related projects were awarded a grant.

<sup>8</sup> The Innovation Fund offers grants of € 2–3 million (DKK 2.5–15M) for funding of projects, with an overall funding of 50% of eligible project costs (up to 60% for SMEs). It focuses on technological research.



health and security. The second is [Nordea-fonden](#), which mainly invests money in sport, culture, nature and health. Both funds emerged from mergers, and creating the foundations gave tax benefits. These funds made e.g. the [Centre for Team Sport and Health](#) at the Copenhagen University possible. Another institution that supports sport research is the [Danish National Institute of Public Health](#). The latter looks in all kinds of health related issues, statistics and research. But since sport and physical activity has been growing they have a lot of part in to the effects of physical activity and things like that.

### National programs for sport research

There are a series of initiatives by several ministries and foundations, but there is no research strategy in sport. Idrættens Analyseinstitut ([Idan](#)) and scientists proposed to work on a strategic approach for sport research, but lacking sufficient support it did not materialize. There is hardly a strategic connection between the rapid development of the sports sector and the rapid development of the sports education. Any initiatives come from the bottom up and from all kinds of people and institutions.

## 4.3 Sport research organizations

### Universities

Of the seven universities in Denmark, four universities are major players in the field of sport related research. The biggest one is [Copenhagen University](#). The [sports department](#) was the first one but lost its status as an independent institute a few years ago and they were merged into the nutrition institute. The second is the University of Southern Denmark in Odense ([USD](#)). The [Centre for Sports, Health and Civil Society](#) at USD is probably the fastest growing institute within the field of humanistic and social sciences. Within the last 10 years they have grown into the leading player when it comes to the social and political sciences and sport. Other topics at USD are sports & civil society and volunteering. The third is the [Department of Public Health](#) at the university in Aarhus, where they work on topics like humanistic doping research and hooliganism, but they do not have one big specialty. The fourth is [Aalborg University](#), which made a new institute for sport. This university had a huge intake of students within a very few years, but they do not really have any sports related research profile.

### University colleges (universities of applied research)

There are special education institutions for pedagogues and teachers at the university colleges. They have some quite big research departments into sport and pedagogics, e.g. in Aarhus and Odense. They have their own research crews where they compete with other kind of school related topics. Sometimes they have quite big funding. Their research is mostly directed at schools, at educating teachers and applying physical activity in to schools. Since a school reform in Denmark in 2014 school sport and physical activity in schools are a very hot topic.

### Para-academic organizations

The Idrættens Analyseinstitut ([Idan](#)) was founded in 2005 and its task is to sort of create an overview of all the knowledge that is produced by various environments and also to try to be able to have an overview of what is going on in the sector, especially the humanistic and social sciences part of sport. Idan has a very strong focus on dissemination and awareness, creating public debate and trying to get it on the political agenda. For example Play the Game is a mixture between journalism and science. Idan does not cover all the natural sciences. With new legislation Idan receives about 1 million euro's for

sport research and dissemination. From this year Idan is one of the official institution that receives a percentage (0,85%) of the national lottery profits of the Ministry of Culture like all the major sport organizations do. Besides Play the Game, Idan runs the National Institute for Non-formal Education ([Vifo](#)). In addition a part of the 1 million euro's goes to research projects, co-operation with universities about PhD's and to stimulating, or creating public awareness. In total about 500.000 euro's go to sports research. In addition, Idan does commissioned work. Their total budget is approx. 2 million euro's a year.

In fact the earlier mentioned Centre for Sports, Health and Civil Society at USD is a para-academic organization. It has the status of a centre, which means that it does not get any university grants but has to sustain itself. In Denmark there are more of these centres. Also the Danish Institute of Public Health is important, even though it is not part of the sports strategy. This institute belongs to the USD but they are an independent unit. And then there is [the Centre for Youth Studies](#). That is also a private institution that is owned by some news organizations where they do research. They have quite a high profile in teenagers and sport.

### National statistical office

The national statistical office of Denmark, Statistics Denmark ([DST](#)) does not really do a lot with sports and they do not do research into sports themselves but they have a statistic bank where statistical information has been made accessible, also about sports. For example, they have data derived from the Sports Participation Surveys that Idan or that the Ministry of Culture has done. There are plans to improve sports statistics and the Ministry of Culture made reservations for about 135.000 euro's for this. However, this budget is limited<sup>9</sup>.

### Practice and policy oriented organizations

Several sports organizations receive money from the national lottery: Danish Gymnastics and Sports Associations ([DGI](#)), the National Olympic Committee and Sports Confederation of Denmark ([DIF](#)), the Danish Company Sports Federation and [Team Denmark](#) (elite sports organization). The [Danish Foundation for Culture and Sports Facilities](#) is also a big player. They all get a fixed percentage of the lottery profits.<sup>10</sup>

Some of these institutions have their own research budgets. For example Team Denmark has a research and scientific committee and they award research grants for top sports specific research. The same goes for the Foundation for Sports and Culture Facilities, which supports research into sports architecture. However these are limited budgets.

Also the university colleges have to be mentioned, business academies that have made educations in sports management and event management. They really succeed in attracting students but they do not have the real research profile for something, though they are improving. At this moment there are two of these schools. The one is Esbjerg (part of University of Southern Denmark) has a small unit and that is

<sup>9</sup> <http://www.statistikbanken.dk/statbank5a/default.asp?w=1600>

<sup>10</sup> [www.dgi.dk](http://www.dgi.dk), [www.dif.dk](http://www.dif.dk), [www.dfif.dk](http://www.dfif.dk), [www.teamdanmark.dk](http://www.teamdanmark.dk); [www.loa-fonden.dk](http://www.loa-fonden.dk), [www.sporteventdenmark.com](http://www.sporteventdenmark.com)

the only place in Denmark where you would find sports economists. But these are all Germans, so one could say there are no Danish sports economists at all. The one in Slagelse (also part of the University of Southern Denmark) is maybe the only place where they have a little bit of research going on into sports marketing.

Finally, the national sports organizations are really gearing up on doing their own research, doing their own analysis and doing their own political communication. They tend to stand less on commissioning studies and more on doing it in-house. So they do spend money on research but it is more for their own purpose.

## 4.4 Best practices

The strengths lie in some sport research within the natural sciences, sports history and sports pedagogy. When it comes to social sciences, economic sciences and the political sciences there are improvements to be made.

### [Team Sport and Health](#)

The university of Copenhagen has a Centre for Team Sport and Health. Within this project a multidisciplinary expertise is brought together. The goal of the project is to develop effective and motivational training from a health perspective. This way, strategies for training recruitment and retention are created and a physically active lifestyle is encouraged. In cooperation with local authorities and sport organizations, the focus lays on reaching those who can't find activities suited to their needs but want to be more physically active. In march 2013, the centres first article was published.

The Centre for Team Sport and Health is located at the Department of Nutrition, Exercise and Sports. The centre received a major grant from the Nordea fund: over 4,4 million euros.

Contact: [Team Sport and Health](#)

### [Play the Game](#)

Play the Game is an initiative run by the Danish Institute for Sports Studies (Idan), aiming at raising the ethical standards of sport and promoting democracy, transparency and freedom of expression in world sport. Through its eight international conferences since 1997, its website, news production, extensive network, and research initiatives, Play the Game has become a unique independent international platform for raising and developing awareness on a number of issues related to modern sport, such as good governance, corruption, match-fixing, doping, sustainability of mega-events, and strategies for promoting sports participation, volunteering in sport, and sports for all policies.

The Play the Game conference has proved its worth over almost two decades as a very efficient platform for raising awareness on important challenges to international sport. It was at these conferences that for instance matchfixing, illegal doping trade, and the need of better governance in

FIFA and other federations were for the first time highlighted the international public agenda.

The mix of participants across different professional geographical backgrounds - journalists, academics, sports officials, business executives, public employees - has ensured a legacy of informal networks, continued dialogue between delegates, extensive media coverage, and dissemination of knowledge far beyond the conference.

Contact: [Jens Sejer Andersen](#)

## Congresses

- Play the Game conference.

## 4.5 Innovation

Denmark is a relatively small country with a good sport participation on popular sports like football, handball, badminton, cycling, swimming and gymnastics. There is also a good representations on company sports, however the number of sports companies is limited. There is no national policy on sports innovation. The scientific parties that work on sport have a large focus on the health aspects (and participation), but little on performance and innovation. Innovation is organised in Denmark through the Innovation Centre Denmark, which has different innovation programs. In the health related program some activities are on sports but these are mostly of a medical nature.

### *Companies*

- There are no innovation clusters on sports present and no substantial amount of companies that invest in innovation on sports.

### *Scientific parties*

- The University of Copenhagen Department of Nutrition, Exercise and Sports is the most important one, having research lines on medical and physiological aspects of sports.

### *Sports*

- Team Denmark is focused on elite sport support, but does not create funding for research or innovation.

## 4.6 Leading experts

[Verner Møller](#)

Aarhus University (top sport, doping)

[Jens Bangsbo](#)

University of Copenhagen (sports and health)

[Bente Klarlund](#)

University of Copenhagen physical activity and health)

[Lars Bo Andersen](#)

University of Southern Denmark (physical activity and health)

[Henning Eichberg](#)

University of Southern Denmark (sport and society / cultural analysis and philosophy)

[Bjarne Ibsen](#)

University of Southern Denmark (social inclusion, sport clubs, volunteering)

[Maja Pilgaard](#)

Idrættens Analyseinstitut (sport participation, motivation)

## 5. England

### 5.1 Focus within the sports research infrastructure

Sport research in England dates back to 1960's and 70's in terms of being an academic topic, within universities here. Sports as a subject in academic research came out of some of the physical education colleges that existed back then. Loughborough University was the first place to come forward with recreation management as an undergraduate degree. Obviously there were institutions that followed on in terms of academic research. The sports councils [Sport England](#)<sup>11</sup> and [U.K. Sport](#)<sup>12</sup> and the other home nation sports councils came in to existence in the late 1960's and they have had a research function as part of their remit<sup>13</sup>. Sport research becoming an academic topic and the establishment of sports councils are probably the two key areas when looking at the historical development of sport research in England.

There is clearly a good deal of research that goes on around performance and improvement of performance. This is not particularly the arch focus of what Sport England does. At Sport England research is very much more about community sports and participation among the population at large. A big area is around the delivery of sports, like the [coaching workforce](#). Another area where pretty much Sport England's prime area is, is what could be described as sport and society, and sports participation is a major part of that. Topics are socio-demographic differences in participation and patterns by sports over time. An important element of that part of the work is the kind of value or benefits that sport provides. Obvious ones are health benefits, the kind of social cohesions, social capital that can be built through sports, economic benefits that might come about through healthy sports industry, education, those sorts of things. There is a growing interest in using big data sets that tell something about how people participate and excel in particular sports, but Sport England has no tracking record on that new topic.

### 5.2 Financing

There is not really a kind of overarching government research fund for sports in England, for sports research. The university and academics have to develop their own research projects. There are quite often rounds of funding that can be competed for through some of the big funding agencies in England. There are several research councils in England that function on a national level. Two councils run themes of funding which might relate to things that are relevant to sports: the Economic and Social Research Council ([ESRC](#)) and the Arts and Humanities Research Council ([AHRC](#)). So it is public health benefits, or it is benefits to society at large, or what our understanding is to culture and society that are

<sup>11</sup> Sport England promotes sports participation on the community level by providing funding for 46 Non-Governmental Bodies (NGB's).

<sup>12</sup> U.K. Sport focuses on the development of high performance sport, especially Olympic and Paralympic sports. 36 Olympic and Paralympic sports' NGB's receive funding from U.K. Sport.

<sup>13</sup> The Sports Council was created in the late 1960s. The current model of devolved home nation sports councils (primarily responsible for community sport) and UK sport (primarily responsible for elite sport) didn't come into existence till the late 1990s.

of interest to these research councils. They have considerable budgets but they do not actually have an allocated budget for sports.

The other probably significant or major investor in sports research would be Sport England itself, and to a lesser extent the other home nations sports councils, although their budgets are considerably smaller than those of Sport England. Sport England spends about 5 million euros a year on research. The majority of that goes on our Active People Survey<sup>14</sup>, which is a very major element in our research program. The rest goes to specific projects and evaluations. Sport England is pursuing to support its own research strategy, organizations that might be in receipt of funding and looking at funding programs and the effectiveness of those. Sport England is increasingly doing research into what can be described as key groups, audiences that we are interested in (e.g. young people and their relationship with sports). Sport England is also currently developing strands of work around people with disabilities and looking at woman sports.

In addition there is U.K. Sport, which is particularly interested in elite sports and performance enhancement. With the government departments there is interest in both elite level and community sports in England.

### **National programs for sport research**

In the UK there is no national program for sport research.

## **5.3 Sport research organizations**

### **Universities**

Across England there are probably about 130 universities that offer undergraduate degrees in sports. Most are primarily about teaching sports to students and not necessarily the research they do on that. The number of people actively doing research would be a far smaller number. Estimated is that half of that number would be actively researching. It is hard to estimate how many people are involved in sport research in England.

There are not that many universities that have a very strong reputation in sport research.

[Loughborough University](#) have a large department where some very good academics work in there. They cover the full spectrum of sport related topics, e.g. sports technologies (designers, footballs, that sort of things). They have a range of sports scientists working on the latest things in terms of physiology, biomechanics, sports psychology, performances, as well as a range of academics with much broader interests, e.g. public health and youth sports.

[Sheffield Hallam](#) have actually quite deliberately split out their staff in a research consultancy team and a more traditional academic teaching team. There is quite a strong division there. The research arm to it has become fairly commercial in the way it operates. They are often competing for contracts to do this research, or evaluation, alongside private companies. They have a particular strength around the economic side of things and are well known for their research into finance and economics of the sport

<sup>14</sup> The Sport England's annual Active People Survey measures specific levels in sports participation such as in different types of sport clubs, over a period of time.

industry. They have a particular specialism around, particularly econometrics and the economic values of sports.

[Canterbury Christ Church University](#), Kent had looked into things called demonstration effects, the impact that major sports events can have in inspiring and encouraging people to take part in sports and whether it exists. Also there are some people working in specific areas, coaching, volunteering, those sorts of issues.

Also the [Brunel University](#), [University of Birmingham](#), [University of Liverpool](#) and [Leeds Beckett University](#) are involved in sport research. Other universities have types of a particular kind of academics where Sport England has worked with which are interested in sports development, inequalities in sports participation, and other themes.

There are not really many dedicated sports research units or teams, if any, other than the exception at Loughborough University and Sheffield Hallam. Most of them have to balance research with teaching. At times this limits their ability to produce research. It seems that academia in other fields of expertise have more time for research than academia in sports.

### Universities of applied sciences

In England there are no so called universities of applied sciences. Higher education is also taught at universities. In England, a distinction is made in undergraduate degrees (bachelor) and postgraduate degrees (master or PhD).

### Para-academic organizations / practice and policy oriented organizations

In England there are no para-academic organizations or practice and policy oriented organizations that work in the field of sport research. [Sport England](#) is a kind of nationalized institute, which is sponsored by the Department of Culture, Media and Sport ([DCMS](#)), with a responsibility for sports. Through the other national sports councils such as U.K. Sport, there is a research family functioning. The Research Team of Sport England is probably the closest thing to the Dutch Mulier Institute, but Sport England has also a slightly wider scope. It invests considerable amounts of money in national sports programs and through national partner organizations as well, partners like the English Federation for Disability Sports ([EFDS](#)) and [Woman In Sport](#). Those partners would typically have one to two people working that have a kind of research or insight function. Sport England also focuses on managing relationships with some of the key deliverers in the sector and on trying to coordinate to some extent or provide some kind of guidance to local governments who are the biggest investors in community sports, through their network of sports facilities and the work force they have in sports.

The other thing that has been certainly developing in the last two to three years in England that is significant are larger national governing bodies<sup>15</sup> developing their own research and analytical functions that are national. Their work will increase the ability to use the sort of management information the sports hold, the management of sports, their ability to look in more depth to the club structure, how

<sup>15</sup> A sport governing body is a sports organization that has a regulatory or sanctioning function, such as a sport federation or a national olympic committee. Sport governing bodies come in various forms, and have a variety of regulatory functions (e.g. disciplinary action for rule infractions, changing sport rules).

membership is distributed, or how people respond to particular programs that they provide. This should make it possible to create a much more in depth picture.

Another organization worth mentioning in terms of both the relevance of what they do and their ability to create, communicate and share information is [Public Health England](#). Sport England are positioning sports in a broader definition of physical activity, bringing in things other than sports like active travel (e.g. walking on foot and cycling to and from work). Public Health is actually very good at disseminating information about physical activity, and sport is part of that. They have a series of kind of regional observatories that focus on communicating local data around healthy lifestyles which includes diets, other life style choices like smoking, but also the amount of sport and physical activity people do. This is quite a big source of data and information that is certainly used by the people that deliver sports at the local level and the people that make decisions and policies at the local level.

Also worth mentioning is the [Sport and Recreation Alliance](#)<sup>16</sup> which has surveyed sport clubs in the UK every two years since 2007. In 2013 the survey included a sample of 2,910 clubs from over 100 sports, most of them voluntary sport clubs.

An interesting commercial company is the Leisure Database Company, that focuses on sport facilities, having huge databases and making data available through theme reports (fitness, swimming).

### **National statistical office**

The Office for National Statistics ([ONS](#)) in England has not really done anything meaningful in terms of measuring sport for quite a long time. It has the responsibility to track what Sport England and DCMS do is of sufficient quality, credible and acceptable in terms of using it to create policy visions and some of the investments and the strategy we develop.

There used to be something in England that was carried out by ONS, called the General Household Survey, of which the last wave to include sport was 2002. This was a much more general survey that asked about sport every few years with questions around sport and recreational activity. About 10 years ago two new surveys were developed, one by the Department of Culture Media and Sport called 'Taking Part' and that actually still runs today. It covers people's engagement in a range of cultural activities so they ask about people's engagement in arts, in the national heritage and historical environments, the use of museums, libraries. It also covers the amount of sport people do. That survey works at national level and provides some good information on sports research. About the same time the Active People Survey was developed by Sport England. It is a large population survey (annual sample of 165.000) that enables Sport England to go beyond what Taking Part does, and produces local data on levels of sports participation for England at the local authority level. Its size enables to look much deeper, like looking at and tracking participation in a very wide range of 70 to 80 different sports or activities. The first wave was in 2005/2006. Since then, almost 1.6 million interviews have been completed.

<sup>16</sup> The Sport and Recreation Alliance is the umbrella organisation for the governing and representative bodies of sport and recreation in the UK and represents 320 members – organizations like sport federations, the Ramblers and the Exercise, Movement and Dance Partnership.



## 5.4 Innovation

In the UK there is a long tradition of sport science and also sport engineering was set up as a specific specialisation in the UK first. Typically the sports, represented by UK sport, and having its own support institutes, the English Institutes of Sports, have very well coordinated their sports support programs, their science programs and also innovation programs. In this the scientific parties work closely with the sports (bodies and institutes), but in competition between each other. Companies sometimes are involved, but not always. On the other hand foreign companies make use of the excellent infrastructure of the universities to let their products be tested or developed in the UK for (world) standardisation e.g. on the fields of running, tennis, football and golf. The London Olympics & Paralympics 2012 gave a big boost on the scientific and innovation activities in the UK, and was continued in programs until 2016.

### *Companies*

- Under the Technology Partnership with UK Sport, BAE systems (2012 program) helped around 20 elite sports teams and 140 individual athletes and their coaches.
- Of course there are many other companies in the UK that work on sports, e.g. in sailing. The largest volume is in motor sports, but this is a different kind of industry.
- Clusters are combinations of business parties, typically locally associated, with additional other type of organisations (end users, scientific parties, government and service organisations), that collaborate to create joined activities on research, promotion and export, to increase economy. Examples are Sport Connex (Northern Ireland) and Sporting Chance (Scotland).

### *Important scientific parties*

- The Loughborough University Sports Technology Institute ([STI](#)) is a £15M initiative to enhance research, innovation and enterprise in the sport and leisure sector and develop technology to support future British champions. This Institute has a worldwide reputation for research quality and R&D capabilities in sport. The facilities and expertise are located on one site in state-of-the-art laboratories housed within the Sports Technology Institute. The Institute has a very wide variety of equipment to allow to design, develop, prototype, test and optimise products and experimental rigs. The institute is working with over 20 brands, including adidas, Dunlop-Slazenger, Head, New Balance, Nike, Reebok, Speedo and Umbro, research is conducted into the engineering design of sports equipment, fitness products, apparel and footwear across a wide range of sports.
- At University of Sheffield Hallam the Centre for Sport and Exercise Science ([CSES](#)) and the Centre for Sports and Engineering Research ([CSER](#)) boast one of the largest physical activity and sport-related portfolios of research expertise in the UK. It has a wide range of clients from the public and private sector, and operates across two main disciplines : physical activity and wellbeing and performance enhancement. It began operations in autumn 2000 as the result of a £5 million investment by Sheffield Hallam University. The vision and continuing aim is to be 'world class' in research, consultancy, training, and education. The Centres offer a range of facilities and equipment that operate for sports science and sports engineering. These include a biochemistry lab, biomechanics labs, environmental chamber and physiology lab. Clients are a.o. adidas, Mitre Sport and numerous Sport Federation and Associations (International Tennis Federation, GB federations : Cycling, Water Ski, Cricket, Golf, Diving, Rugby, Paralympic, Yachting ...)
- The Research Institute for Sport and Exercise Sciences ([RISES](#)) in Liverpool works on innovation and development in sport science since 1975. The institute holds partnerships and collaborations with industry partners focused on exercise, health and physical activity, including local and

national hospitals and schools, and organisations committed to health promotion and positive behaviour change. Activities comprise amongst others:

- Tackling unhealthy lifestyles and obesity in children by adapting play areas and schools
  - Working with Premiership football clubs, locally and across the country for performance analysis and injury prevention strategies
  - Cardiovascular health of athletes
  - Nutritional support for elite athletes
- Wind tunnel research from the University of Southampton's Performance Sport Engineering Laboratory ([PSEL](#)) has contributed to winning gold medals at the Olympic Games to support British cycling. The expertise in fluid dynamics and instrumentation as well as its application to system design and equipment selection has supported UK Sport since 2005. It has contributed to the development of sails, hulls, keels and rudders on America's Cup yachts, Formula 1 motor racing cars and become established as an international player in performance sports engineering. [The Wolfson Unit](#) was an Innovation Partner to UK Sport's World Class Performance Programme working with sports including cycling, swimming, sailing, rowing, canoeing and wheelchair racing on the journey to 2012.
  - The [Innovation Design Engineering course](#) (jointly run by the Royal College of Art and Imperial College School of Design Engineering) are running projects to generate novel solutions for athletes with disabilities. Additional projects associated with the Adaptive Sports run under the Undergraduate Research Opportunities Programme ([UROP](#)) scheme.

## Sports

- UK Sports The UK Sport and Innovation Programme, is a part of the total UK Sport program (£100 million) of which £7 million for innovation: "To work in partnership to lead sport in the UK to world-class success" Aim is to create a system that allows athletes to be the most prepared and best equipped of all on the world stage through a collaboration of sport, science and business (as a sponsorship in kind/cash). Focus is on elite sports, (for most important Olympic sports): on topics like Athlete Equipment, Coaching Tools, Training Science, Performance Medicine, Paralympic Technology. However no valorisation takes place and most results are confidential, so no business impact.
- The UK Sport Research & Innovation team goal, supported in delivery by the English Institute of Sports ([EIS](#)), is to maximise performance gains in securing medals through an innovative approach to delivering performance solutions. The programme is focussed on bringing external expertise into the UK sporting system, building on existing skills, knowledge and competencies already there to help supplement and solve specialist performance needs. These needs may relate to the following priorities:
  - Athlete equipment and accessories
  - Coaching techniques
  - Training science
  - Medical management

Though to retain a competitive advantage over competitors, much of the work done by the team does not enter the public domain. The EIS claim that innovation is a world where it pays to be secretive because any advances in technology or technique could make the difference between 'the best' and 'the rest'. However this leads to no business impact of these activities, which makes the system less sustainable and very dependent on funding.

## 5.5 Best practices

One of the real strengths in English sport research is the commitment Sport England has made to the population level measurement (Active People Survey). England has fairly unparalleled levels of statistical data over a considerable amount of time now, in terms of who participates in sports, what type of sports they do, across the country.

Another thing that has been really a recent development at Sport England is trying to reshape the approach to what was quite a traditional research function to increasingly talking about being inside led, which means that Sport England is not only providing research that is very well executed, but that also is properly communicated to key partners. This makes the work more actionable and practical. It is still work in progress it is one of the more exciting things that we Sport England is working on.

There are huge opportunities in unlocking the enormous potential there is in academic research. Still, there are some glitches. At the moment there is no strong theme or strategy around it or ownership of it. In many cases the personal research interests of the academics are not always necessarily in line with overarching sports policies. In England there is a need for more balance between personal academic freedom, the particular interests and skills and specialisms that different universities have and needs of the government, policy makers and practitioners. Sport England is trying to develop a plan over the next year.

### [Active People Survey](#)

The Active People Survey is the largest ever survey of sport and active recreation to be undertaken in Europe. Since October 2005 there were nine surveys. The survey provides by far the largest sample size ever established for a sport and recreation survey and allows levels of detailed analysis previously unavailable. For the seventh wave 161.000 adults in England (age 16 and over) were interviewed by telephone between April 2012 to April 2013.

The survey yields an unprecedented amounts of data about sports participation, volunteering in sport clubs, club membership, involvement in organised sport/competition, receipt of tuition or coaching, and overall satisfaction with levels of sporting provision in the local community. Results are presented by local area, socio demographic group, and sport / activity. Only few nations could boast such a rich source of data. The controversial aspect of Active People has been its use for the performance management of funded partners (most notably National Governing Bodies). Inevitably sports that have had disappointing results have closely scrutinised the method / quality of the survey.

Contact: [Andrew Spiers](#)

### [Sport and Age](#)

Many projects have aimed to increase the number of young people playing sport. Though a high proportion of young people regularly take part in sport, the rate of participation has historically been fairly flat. What works and what research is there about how to motivate and influence this important age group? Sport and age is about the relationship of young people to sport.

A variety of data collections methods (e.g. focus groups, friendship triads, quantitative survey with 14-25s, expert interviews, using existing data) were used. The researchers identified that many sports professionals have a long standing and deep affection for sport and struggle to understand that for many sport has negative associations and past experiences. Current provision tends to reflect and favour those who enjoy sport and sporting environments. Through the review it was sought to reset this. In some ways it might seem quite obvious but it is an important and significant change. An increasing number of practitioners starts to think differently about the relationship between youth and sports. In addition, the approach that was taken to this work is now shaping how we are looking at other key audiences (women, disabled people).

Contact: [Andrew Spiers](#)

### **Congresses**

- ISSSMC15: The International Sport Science and Sport Medicine Conference 2015 in Newcastle Upon Tyne.
- BASES Conference 2015: Congress of the British Association of Sport and Exercise Science in Burton.
- The Sport Science Conference 2015 of the university of Birmingham.

## **5.6 Leading experts**

It is not easy to name the leading experts. Still, two institutions stand out, Loughborough University and Sheffield Hallam University. These universities have shown commitment to sports research institutions and therefor the quality of the people they attracted and their ability to do some excellent research in the sports areas.

[Barrie Houlihan](#)

Loughborough University (public policy for sport, elite sport development)

[Ian Henry](#)

Loughborough University (sport and leisure policies, politics, governance at various levels and in relation to Olympism and Olympic policy)

[Chris Gratton](#)

Sheffield Hallam University (economic sports, analysis and sports participation)

[Peter Taylor](#)

Sheffield Hallam University (economics of sport, volunteering and performance management)

[Simon Shibli](#)

Sheffield Hallam University (sports industry research)

## 6. Germany

### 6.1 Focus within the sports research infrastructure

The discipline sports science in Germany is in comparison to other science disciplines very young and quite a small discipline. It goes back to the beginning of the 1970's. The meaning and the dimension of sports science increased with the Summer Olympics in Munich in 1972. That was the main starting point to spend more money and have more staff and personnel in the field of sport science. The Summer Olympics was also the main reason to increase the effort in the field of top-level sports. After this intention to spend more money on top-level sports in Germany the government became interested in the connection between the grassroots sports as a fundament for top-level sports and they started to see top-level sports as an engagement or an instrument to get more people involved in grassroots sports. After that, the main study in sports science was to offer studies for teaching positions in schools. Now, Germany also has sport science in the field of sports management, health and recreation, with political support and governmental positions. This is connected with initiatives of the Deutscher Olympischer Sportbund ([DOSB](#)) and of The Association For International Sport For All ([TAFISA](#)) by UNESCO. The idea is to widen the focus, not only to concentrate on top-level sports, but to involve all of the German population. Germany has 64 sport science institutes at universities and more than 30 sport science institutions at universities of applied sciences. In 2013, there were 259 professors - among 1.747 full-time researchers - and 1.493 part-time researchers working in the field of sport science. In 1976, the Deutsche Vereinigung für Sportwissenschaft ([DVS](#)) was established. This is a federation of researchers that are active in teaching, research or practice and its mission is to encourage and support research in sport science.

### 6.2 Financing

The responsibility for sport science in Germany is not on a federal level. The sixteen states, called 'Länder', are responsible for education and science. When it comes to funding, for the field of top-level sports it is the Federal Ministry of Interior. They have an annual budget of about 19,7 million euros that goes to three institutes. They coordinate and promote funding in the field of top-level sports. Most important is the Bundesinstitut für Sportwissenschaft ([BISp](#)). The BISp belongs to the federal ministry of Interior and has a total budget of 7,7 million euros of which about 4,7 million is spent on research last year. The other two are the Institut für Angewandte Trainingswissenschaften ([IAT](#)) in Leipzig and the Institut für Forschung und Entwicklung von Sportgeräten ([FES](#)) in Berlin. The total amount for these two institutes that is funded by the federal ministry of Interior is about 12 million euros every year. It is impossible to give a number of the total amount for all sport research budgets.

Sport science universities rely more and more on third party funding. All sport science universities in Germany received nearly 32 million euros of third party funding, external, private funding in 2012. That is about 18% of all expenditures of the universities of top science in their institutes. This money is not from the states. The states are responsible for science and all this third party funding is from other institutions outside the states. There are other funding institutions for sport in general, for example other federal ministries, ministries of the states. They have a few foundations, charities, which are funding special topics. For example the [Robert-Enke-Stiftung](#) is funding a project in the field of depressions in top-level sports. Another charity, [Krupp-Stiftung](#), is funding children and youth-sports reports in Germany in the last 10 years.

In the other field of sports, grassroots sports, health sports, there are a lot of funding institutions. The ministries of the states have foundations in several states, which are funding different projects, for

example in the field of integration for sports or sports for elder people. But there is no national statistical token that is coordinating these researches.

### **National programs for sport research**

The German sport science research infrastructure is very intransparent. There is no national law or national research program in sports science. In the field of top-level sports, the BISp has a central function in funding research projects. Its task is to identify research needs and initiate, promote and coordinate research projects. But all the other fields of sports science, school sports, leisure time sports, everything else, these topics are the job of the states and the universities. There is no central controlling in these fields. So Germany has no national sport science research program or anything similar.

The BISp has published a national research program for the combined system in top-level sports: the Verbundsystem Leistungssport ([WVL](#)). This research program started in 2008 and it should be finished in 2016.

## **6.3 Sport research organizations**

### **Universities and universities of applied sciences**

There are 64 sports science institutes and 259 professors in the field of sport science at universities in Germany. An important university is the [German Sports University in Cologne](#). It is the only sports university in Europe and it has a lot of different institutes and disciplines. That is a big advantage for interdisciplinary work in sport research, for example in the field of sport sociology, sports medicine and psychology. In addition, Germany has more than 30 sport science institutes at universities of applied sciences.

Universities and universities of applied sciences together received 32 million euros of third party funding. The total expenditures of these sport science institutes are about 177,5 million euros (2012).

### **Para-academic, practice and policy based organizations**

The BISp is funding a very big project, more than one million euro, in the field of back pain in top-level sports and they want to transform the results to back pain in society. BISp is also engaged in the field of databases. It is working with different databases in the field of sports science literature and in the field of sports science research projects. By this, it aims to get an overview of the work that is done and it is the only instrument to coordinate this in Germany. There is no other comparable instrument in the field of the states or on the governmental level.

There is another big funding institution that is called Deutsche Forschungsgemeinschaft ([DFG](#)), a German research company that is funded by universities and by the federal ministry for Education and Research ([BMBF](#)).

In the field of top-level sports, two important research institutes are the IAT and the FES. The IAT was founded in 1992 and is a central research institute of German researchers and young academics, focused on competitive sports. It cooperates with 20 other, leading organizations. The FES is a research institute that focuses on the development of sports equipment. It has a close interdisciplinary cooperation with other scientific disciplines in competitive sport research.

The FES is specialized in training science, for example rowing, cycling, swimming, and a lot of other Olympic disciplines. The FES institute is developing technologies for rowing boats, bicycles, weapons for

biathlon, bobsleds and other technological innovations. Cold and expensive is the main topic in German winter sports. It is often very expensive and in that regard the FES has a technological advantage. It spends a lot of money on many on these technological disciplines.

A special foundation in Germany is the so-called [Stiftung Deutsche Sporthilfe](#). It did a lot of effort in the field of living conditions of top-level athletes and in the field of social acceptance of top-level sports in Germany.

### National statistical office

The national statistical office, the [Destatis/Statistisches Bundesamt](#) has a lot of official statistical data regarding sports in the field of economics, professions, education, time budget and also expenditures of private households.

## 6.4 Innovation

Germany is traditionally a country where innovation is realised by companies, with some supporting programs by the government and with use of knowledge available by scientific parties. However the role of the companies is significant. Sports is not very well organised due to the inner structure of the country (federation of different so-called countries), which gives conflicts between the different Bundesländer. National coordination in sports is required but not always strong.

### *Companies*

- In the area of sports innovation adidas is one of the most important companies that invest in sports innovation. Apart of its central sports research and innovation team based in Herzogenaurach and Portland (about 40 fte) it also collaborates with a large number of (national and international) centres and universities on future and emerging technologies. Its annual budget is unknown, but substantial. There are many more companies in Germany investing in sports: measuring technology (e.g. for football), products (e.g. Puma), fitness (Kettler), head protection, winter sports, ...
- [ISPO](#) is the largest sports product fair of the world, having its office in Munich and organising its annual world fair in Munich in end of January, but now also having fairs in China. In the fair they support the brand new area (the innovation area) and since two years they support the ISPO OPEN INNOVATION community. This community helps the sports industry's brands to look for new ideas in order to offer better products in the future which are aligned to consumers desires. Apart from that, consumers can actively further develop existing products by participating in product tests and sharing opinion and assessment with the producers of sports products.

### *Scientific parties*

- Fraunhofer as an independent research organisation in applied sciences has worked on different sports innovation fields (amongst others the IIS institute on goal line technology and other tracking and tracing). There is however no coordinated program within the Fraunhofer organisation on sports.
- The [SportHochschule](#) is a university specially dedicated to sports (science). However, little effort is on innovation activities related to more business oriented partners.
- Technische Universität München ([TUM](#)) has a significant department on sports technology (focus on alpine sports) with also innovation spin off, in particular related to ISPO

- [The Humboldt University of Berlin](#) has a group that dedicates itself to (technological) research on sports

There are a number of other (technical) universities who work occasionally on sports innovation, but their activity portfolio is limited.

#### *Sports*

- The Federal Institute of Sports Science (Bundesinstitut Sportwissenschaft, [BISp](#)) in Dresden has the task of determining research needs and to initiate, to promote and coordinate projects in the field of sport (departmental research), evaluate research results and to transfer research results into practice in cooperation with the target groups within the sport. This is for the areas of professional sports including youth development and scouting, sports equipment, anti-doping issues for sports development. Coordination is on competitive sports, on projects at universities and private research institutes. The institute is (co)funded by the government.
- The Institut für Forschung und Entwicklung von Sportgeräten ([FES](#)) in Berlin is a technological institute for elite sport in Germany, (co)financed by the German Min. of Domestic Affairs. It originates from former East Germany. It works exclusively for the German Sport federations and has almost a monopoly on this collaboration, making the role of universities somewhat complicated in this field of working with (Bundes)federations, meaning that some innovations developed by universities are not able to enter the sport due to the monopoly agreement in some sports.

## 6.5 Best practices

A strength in Germany lies in the field of top-level sports, the field of medical, psychological and training science. Scientific support of this top-level field is very good developed in Germany. Maybe it is possible to optimize the structure, but over the last 20 years a lot of effort is made to strengthen these systems.

A few opportunities in the sport research structure exist. German sport science has a lack of data in the field of informal sports, sport outside the clubs. There is no well-based research on that in Germany. Germany has a huge sports club lobby. The DOSB is very busy to engage politicians and members of the parliament in support of top-level sports but research on informal sports is very limited.

Another challenge is that there is a lot of discussion about evaluating the structures of the funding of top-level sport in Germany in general. This year there will be the start of a renovation of the sports funding structure in Germany in the field of top-level sports. The minister of Interior and also the chairman of the DOSB are very unsatisfied with the current conditions. There is a lot of double work and it is very intransparent. So it is decided that the system needs to be changed in the next 2 or 3 years.

#### [Sports Development Report](#)

Every second year a German report is presented containing data on more than 20.000 sport clubs involved in the survey. This is a project in which Germany is the leading expert because there is no comparable research project in other European nations in the field of sport clubs. The project is cofounded by the DOSB, by all sixteen sports federations of the states and by the Federal Institute of



Sports Science ([BISp](#)). The German Sports University of Köln is also paying for this project. The project is carried out in strong cooperation between different organizations. This is extraordinary in Germany.

Contact: [Christoph Breuer](#)

### **Sports Satellite Account<sup>17</sup>**

The Sport Satellite Account appears every second year. The report contains annual data in special topics in the field of sports economy, for example the economic effects of winter sports. At the end of each year, a special report is handed to the national political decision makers.

The Sport Satellite Account is part of a European project. The latest Sport Satellite Account in Germany was presented in 2013, in a cooperation between the BISp, [2hm](#) (a research company in Mainz) and the national statistical office. The project is funded by the BISp and the Federal Ministry of Interior (BMI).

Contact: [Gerd Ahlert](#)

### **"Rückenschmerz"**

The project "Rückenschmerz" ("back pain") is an important project, because of the 7-digit-budget (5.3 million euro's) and the interdisciplinary approach. The project focuses on spinal issues within top-level sports and tries to transform these results to the society as a whole. It is co-funded by the Federal Ministry of the Interior (BMI) and the Federal Ministry of Education and Science (BMBF). The project was submitted by the BISp in 2010.

Contact: [Peter Stehle](#) (internal coordinator BISp)

### **Congresses**

- The Teaching Games for Understanding (TGfU) 2016 congress at the German Sports University in Köln.
- The DVS organizes several (mostly annual) conferences and congresses in different fields within sport research, such as: Enhancement, The Athlete's Brain: Neural Aspects Motor Control in Sport, Active Health: Exercise is healthy, Sport as Stage: Communication and Mediatization of Sport and International Sport Big Event.
- The Stress Regulation and Sport congress of der Arbeitsgemeinschaft für Sportpsychologie (ASP) in Freiburg.

<sup>17</sup> There is no website dedicated to the Sports Satellite Account.

Sport Medicine: Innovation and Position congress of der Deutsche Gesellschaft Fur Sportmedizin und Prävention Deutscher Sportärztebund (DGSP) in Frankfurt.

- The World Congress of the International Society for Physical and Rehabilitation Medicine (ISPRM 2015) in Germany.
- The annual congress of the International Association for Sports and Leisure Facilities (IAKS) in Köln.
- The annual congress of the European College of Sport Science (ECSS) in Bochum 2017.

### Leading experts

[Christoph Breuer](#)

German Sport University Cologne (economics, sport clubs)

[Karen Petry](#)

German Sport University Cologne (sport policy, social integration, sport and gender)

[Holger Preuss](#)

Johannes Gutenberg-University Mainz (economic and socio-economic aspects of sport)

## 7. Comparison

In this report we highlighted the different ways that sport research is being organized in the Netherlands, Belgium, Denmark, England and Germany. These sport research infrastructures show certain shared features, but also many differences. In this chapter we present a brief comparison of the sport research infrastructure in these five countries.

### Research topics

Most of the topics are part of the scientific curriculum in all five countries. These topics include sport & society (sport participation, grassroots sports), sport & health (neurologic, bio-mechanics) and performance (elite sports). Some fields do not have a long tradition. In the Netherlands and Denmark research into sport economics is limited, a theme for which the English universities of Loughborough and Sheffield Hallam are well known. In Denmark and Germany there is a strong tradition in regard to pedagogical sport research (teacher education), a theme that emerged just recently in the Netherlands. Belgium (Flanders) has a strong tradition in cross-national elite sports studies (SPLISS).

### Innovation

The sports innovation environment of five countries are completely different. In the Netherlands innovation is a topic since the beginning of the millennium. It is characterised by a collaboration between science, business and sports. Belgium (and in particular Flanders) is in a transition stage. In the past innovation was mostly realised through collaboration between science or business with sports, but recently parties have been inspired by the Dutch model leading to more coordinative activities, resulting amongst others in a first innovation conference end of 2015. In Denmark there is hardly any innovation activity on sports, very limited scientific parties, very limited business activity and hardly any coordination from sports. In the UK there is a large volume of activities which is supported by UK Sports. These means go for a large number to scientific parties, with some collaboration with business, but mostly in collaboration with sports only. In Germany the business is usually the driver of innovation, government does support different scientific parties, but the means in here are limited and mostly reserved for a limited number of parties.

### Organizations

There are clear differences between the parties that are involved in sport research in sport research in the different countries:

- In the Netherlands scientific and applied sport research is mainly being done by both universities and para-academic organizations. In addition more and more universities for the applied sciences are involved and doing their own applied research. Also the national statistical office has a strong tradition in sport research. Furthermore, in the Netherlands there is a strong cooperation between all the organizations involved.
- In Flanders three universities are well known for their sport research. Universities of applied sciences and para-academic organizations are only involved in sport research on a limited scale.
- In Denmark it is mainly four universities who do the scientific sport research. In addition the Idrættens Analyseinstitut (Idan) has a double function, being a research institute and having the task of providing an overview of all the sport knowledge that is available in Denmark.
- In England the situation looks like the one in Denmark. Several universities are well known for doing excellent work in sport research of which two stand out (Loughborough and Sheffield

Hallam). Sport England has more or less the same role as Idan, though their research team is smaller, their staff for distributing information bigger and their financing is different as well (being a government agency with a 300 GBP budget).

- In Germany many universities are involved in sport research, of which the German Sport University Cologne holds a unique position, being the only sport university in Europe. Sport research is also done by universities of applied sciences. There is no research institute that can be compared to the Dutch Mulier Institute, the Danish Idan or the English Sport England.

## Funding

The research organizations receive funding from various sources, like annual grants from the (national) governments, grants from scientific institutions and from private organizations.

- In the Netherlands sport research is funded by the ministry of Public Health, Welfare and Sport, both directly to certain institutions and to a national scientific program, to which other organizations like the national Olympic committee also contribute (total € 10 million).
- In the Flemish part of Belgium the 'Steunpunt' Flemish Policy Research Centre on Sports, financed by the Flemish government, supports several research project from three universities. Unfortunately due to budget cuts these grants might disappear by the end of 2015. Universities have to find additional funding, for example grants from the profit and non-profit organizations. In addition the government awards grants for ad hoc projects with a limited time span.
- In Denmark each year the ministry of Culture reserves € 0,67 million for sport research. Universities have their own basic grants and can apply for grants with two national institutions. Also two private foundations have huge amounts of money for sport related research and there are other institutions that award smaller grants. Annually Idan receives € 1 million from the national lottery.
- In contrast in England there is no governmental funding. Researches can apply for a grant with one the funding agencies. However, there is no such thing as an allocated budget for sport related research. Another major investor in sport research is Sport England (€ 5 million).
- In Germany the ministry of Interior is funding three institutes in the field of top-level sports (€ 19,7 million). Universities rely on third party funding. In addition there are a few foundations that fund research into special topics (top-level sport, youth sport).

## Conclusion

Neither of the countries we mapped had a clear and transparent picture of the sport research infrastructure in their respective countries. The EU does not have such an overview either. This report can therefore be seen as a first attempt to describe the European sport research infrastructure, identifying the main themes, organisations, funding, innovation, best practices and (some of the) leading experts. In all five countries the experts that we have spoken can enumerate the main themes and main organizations, but the way sport research is funded shows much variation (national and regional governmental budgets, international grants, national (non-profit) foundations, private grants and internal funds). The Netherlands and Belgium are the only two countries with an overarching national (scientific) program with significant budgets for sport research. Furthermore, it looks like there is little cooperation between research organizations, the Netherlands being an exception.

**Table 7.1 Main themes, research organizations and means of funding**

	Netherlands	Belgium	Denmark	England	Germany
Main themes	<ul style="list-style-type: none"> <li>• Sport &amp; society (grassroot sports, sport participation)</li> <li>• Health</li> <li>• Elite sports</li> </ul>	<ul style="list-style-type: none"> <li>• Sport participation</li> <li>• Exercise physiology</li> <li>• Neurologics</li> <li>• Sport biomechanics</li> <li>• Sport management</li> <li>• Sport policy</li> <li>• Elite sports</li> <li>• Pedagogical (teacher education)</li> <li>• Exercise education</li> </ul>	<ul style="list-style-type: none"> <li>• Pedagogical (teacher education)</li> <li>• Sport biomechanics</li> <li>• Health</li> </ul>	<ul style="list-style-type: none"> <li>• Sport technologies</li> <li>• Physiology</li> <li>• Biomechanics</li> <li>• Sport psychology</li> <li>• Performances</li> <li>• Public Health</li> <li>• Youth</li> <li>• Economics</li> <li>• Econometrics</li> <li>• Demonstration effects (sport events)</li> <li>• Sport &amp; society (volunteering)</li> </ul>	<ul style="list-style-type: none"> <li>• Elite sports</li> <li>• Grassroot sports</li> <li>• Pedagogical (teacher education)</li> <li>• Sport management</li> <li>• Health</li> <li>• Recreation</li> </ul>
National Program	<ul style="list-style-type: none"> <li>• Yes</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> </ul>	<ul style="list-style-type: none"> <li>• No</li> </ul>
Main research organizations	<ul style="list-style-type: none"> <li>• Universities</li> <li>• Para-academic organizations</li> <li>• Universities for applied sciences</li> <li>• National statistical office</li> </ul>	<ul style="list-style-type: none"> <li>• Universities</li> <li>• Universities for applied sciences</li> <li>• Para-academic organizations</li> </ul>	<ul style="list-style-type: none"> <li>• Universities</li> <li>• Idan</li> </ul>	<ul style="list-style-type: none"> <li>• Universities</li> <li>• Sport England</li> </ul>	<ul style="list-style-type: none"> <li>• Universities</li> <li>• Universities for applied sciences</li> </ul>
Funding	<ul style="list-style-type: none"> <li>• Ministry of Public Health, Welfare and Sports</li> <li>• National program</li> </ul>	<ul style="list-style-type: none"> <li>• Flemish Policy Research Centre on Sports</li> <li>• Flemish government (ad hoc projects)</li> <li>• Private sector (profit and non-profit)</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Culture</li> <li>• General research grants (universities)</li> <li>• Private foundations</li> </ul>	<ul style="list-style-type: none"> <li>• Funding agencies</li> <li>• Sport England</li> </ul>	<ul style="list-style-type: none"> <li>• Ministry of Interior</li> <li>• States (incl. foundations)</li> <li>• Third parties</li> </ul>

- Internal budgets (basic grants) are not included in the table



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