



cutting through complexity

SPORTS ADVISORY PRACTICE

# Synthetic Turf Study in Europe, 2012

A report on the costs and benefits  
of using synthetic turf in football  
stadiums across Europe

Commissioned by ESTO



European Synthetic  
Turf Organisation

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**Dear Reader,**

Whilst there has been early resistance to employing synthetic pitches in professional football, an increasing number of football clubs have recently switched to synthetic turf in Europe. The reasons for its increasing popularity range from quality improvements and regulatory changes, to proven business cases and football reasons.

This report, commissioned by ESTO (The European Synthetic Turf Organisation) to KPMG, aims to assess the costs and benefits of applying synthetic turf in football stadiums across Europe.

The results of our research are based on several interviews with industry stakeholders, regulators, as well as stadium/club managers who have switched to synthetic turf and shared their experience regarding that with us. Furthermore, we have critically assessed the available literature on the costs and benefits of utilising synthetic turf with the aim of understanding the financial and broader impacts associated with its application.

Key highlights from the Synthetic Turf Study include:

- Synthetic turf is supported by FIFA, UEFA, and many football associations, whilst a range of top-tier clubs use synthetic fields across Europe;
- Utilisation patterns for synthetic fields are more intensive;
- Synthetic turf requires maintenance, but generally lower costs are incurred than when maintaining natural pitches;
- Cost savings can be made through the greater utilisation schedule of synthetic fields;
- Apart from financial gains, strategic benefits of using synthetic turf may also be significant;
- Synthetic turf, if well commercialised, can enhance a sustainable operating model for football clubs, also assisting the goals of the UEFA Financial Fair Play regulations.

An analysis of the costs and benefits of using synthetic turf seems to provide a business case for at least considering, under certain circumstances, a switch from natural grass.

We hope you will find our report informative and supportive of your future business decisions.

If you would like to receive any clarification or discuss the findings of the study, please feel free to contact the Sports Advisory Services practice of KPMG or myself.

Yours sincerely,

Dr. Andrea Sartori

# Overview of synthetic turf used in football stadiums across Europe

In our first section we aim to clarify the role synthetic turf plays in football stadiums, provide a brief overview of how it is used and why it has been gaining significance recently.



## Synthetic turf – key product features and regulatory background

Synthetic surface materials, specifically for football pitches, became available over two decades ago, with significant technological improvements supporting a more natural look and feel to the turf. Since its introduction, there have been both positive and negative reactions to applying synthetic turf in football stadiums, but due to the characteristics of the newest generation of products, the use of synthetic turf for football is now supported by UEFA, FIFA and many national federations/leagues.

The most profound reason for the international proliferation of synthetic turf in football stadiums is that natural grass is highly sensitive to weather conditions. A grass field simply cannot remain lush and resilient if it is used intensively in the rain, or during months when grass does not grow. Synthetic turf is highly resistant to extreme, high or low temperature values, and can tolerate intense rainfalls. Additionally, natural grass deteriorates rapidly from excessive use. It is not possible to use natural grass grounds for longer than 2-3 hours in a day, unlike synthetic turf surfaces that need minimal resting periods. Therefore synthetic turf is a solution for playing fields that have become unsafe and unsightly from overuse or severe climatic conditions.

The quality of the synthetic surface is to be regularly maintained, and the field has to be tested to FIFA standards to ensure its safety and performance characteristics, whether at the elite or community level. FIFA has drawn up criteria for the quality of professional and communal pitches and has issued the necessary guidelines for national associations.

Technical and medical reports conducted by FIFA, based on actual games and tournaments, have shown no considerable difference between the experience of playing on natural grass or synthetic turf. These studies covered the attacking and the defending aspects of the game as well as the effective playing time and injuries suffered on each surface.

## How synthetic turf is used in football stadiums

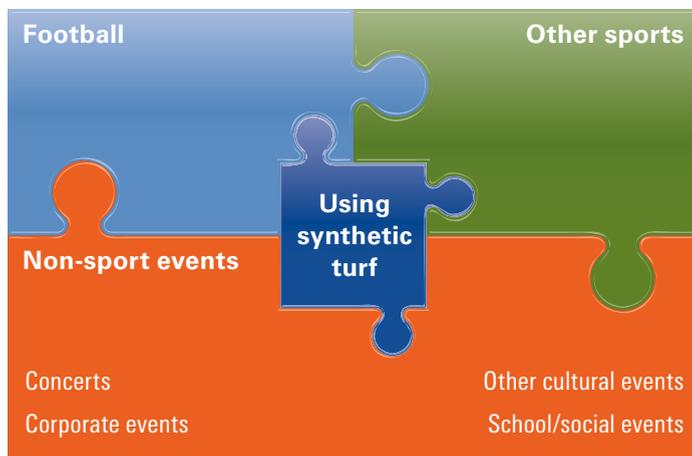
Synthetic turf has a wide range of applications in Europe, but it is mainly applied by football clubs and local authorities who want to be able to maximise the use of their sports field.

In principle, all sports that can be played on natural grass can also be played on synthetic turf. Practicing multiple sports on the same synthetic field is possible, as long as the technical sporting characteristics are similar. Combinations like football and rugby can be played on one field if meeting the international standards.

Due to its high resistance against wear, synthetic turf allows more frequent usage, not only for sports, but also for non sport-related events like concerts, cultural or social events. As football stadium owners become more familiar with non football-related events they target attracting more non-football business, particularly during the closed season when the first team is not playing. The football team's performance is subject to fluctuation, thus stadium operations may become more financially sustainable with other revenue streams than the basic business of league football. Also, strategic partnerships that are stimulated by the non-football utilisation of the field are substantial, as will be explained in a later section of this document.



### How synthetic turf is used in football stadiums



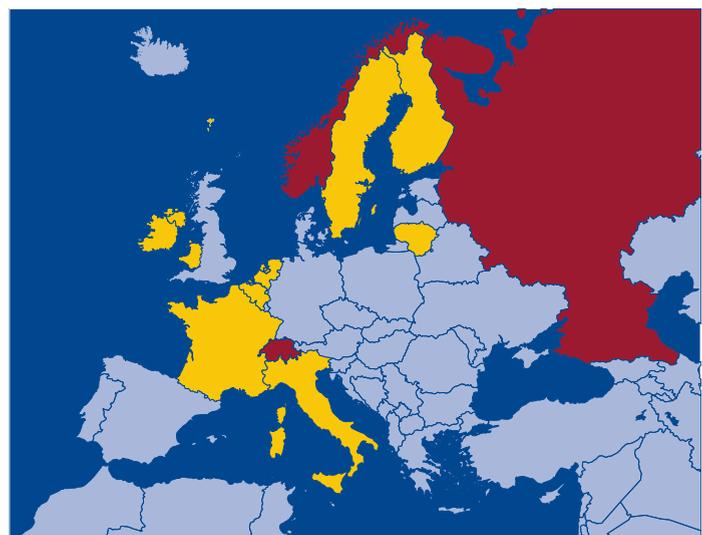
### Where is synthetic turf used?

There is a common understanding that synthetic turf is typically used in regions where climatic conditions do not allow the efficient usage and maintenance of natural grass fields. An overview of the current number of stadiums hosting synthetic turf in the European top-tier leagues does not seem to fully support this statement.

In fact, while the most stadium fields are in Norway, Russia and Switzerland, there are synthetic fields in countries with less severe climatic conditions including the Netherlands, France, Italy and Ireland.

A very rainy or extremely dry climate may provide reasons for installing synthetic turf, however, there are additional benefits of using turf, as the following chapters of this report will outline.

### Where is synthetic turf used?



Number of teams in the first division using synthetic turf:

- More than 2
- 1 or 2
- None

Source: FIFA, KPMG analysis  
 Note: The map represents the status at the beginning of the 2011 or 2011/12 season

**First division clubs who played on synthetic turf in the 2011/12 season**

A.C. Cesena (ITA)	Aalesunds FK (NOR)	AS Nancy (FRA)
AZAL PFC (AZE)	B36 Tórshavn (FRO)	BSC Young Boys (SUI)
Cliftonville FC (NIR)	Crusaders FC (NIR)	Dundalk FC (IRL)
Excelsior (NED)	FC Amkar Perm (RUS)	FC Anzhi Makhachkala (RUS)
FC Astana (KAZ)	FC Irtysh Pavlodar (KAZ)	FC Lorient (FRA)
FC Spartak Moscow (RUS)	FC Thun (SUI)	FK Banga (LTU)
Heracles Almelo (NED)	HJK Helsinki (FIN)	IF Elfsborg (SWE)
K. Sint-Truidense V.V. (BEL)	Kuopion Palloseura (FIN)	Neuchatel Xamax FC (SUI)
Novara Calcio 1908 (ITA)	Odd Grenland (NOR)	Örebro SK (SWE)
PFC CSKA Moscow (RUS)	SBV Excelsior (NED)	Stabæk Fotball (NOR)
Stromsgodset IF (NOR)	The New Saints FC (WAL)	Tromsø IL (NOR)

Source: FIFA – April 2012

**Leagues where there were first division matches played on synthetic turf in the 2011/12 season**

A Lyga (Lithuania)	Russian Premier League	Faroe Islands Premier League
IFA Premiership (Northern Ireland)	Unibank Premyer Liqasi (Azerbaijan)	League of Ireland
Ligue 1 (France)	Eredivisie (The Netherlands)	Swiss Super League
Tippeligaen (Norway)	Kazakhstan Premier League	Welsh Premier League
Allsvenskan (Sweden)	Serie A (Italy)	
Jupiler Pro League (Belgium)	Veikkausliiga (Finland)	

Source: FIFA – April 2012

**Stadiums where games of European international competitions were played**

Alfheim (Tromsø, Norway)	Arena Thun (Thun, Switzerland)	Astana Arena (Astana, Kazakhstan)
Azal Stadium (Baku, Azerbaijan)	Behrn (Örebro, Sweden)	Boras Arena (Boras, Sweden)
Centenary (Ta' Qali, Malta)	Color Line Stadion (Aalesund, Norway)	Gargždai Stadium (Gargždai, Lithuania)
Gundadalur (Tórshavn, Faroe Islands)	ISS Stadium (Vantaa, Finland)	Luzhniki Stadium (Moscow, Russia)
Marienlyst (Drammen, Norway)	Solitude (Belfast, Northern Ireland)	Sonera Stadium (Helsinki, Finland)
Stade de Suisse (Bern, Switzerland)		

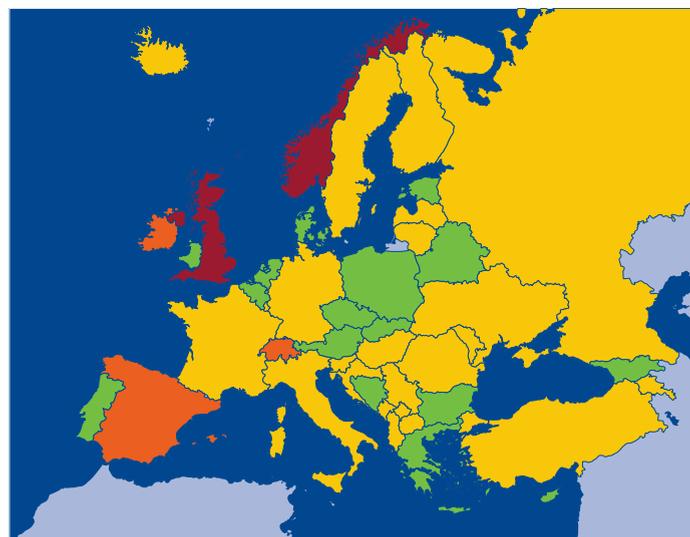
Source: UEFA – April 2012

**Synthetic turf in privately- and publicly-owned stadiums**

Due to improved technology and product quality, and consequent regulatory changes, there has been significant development in the application of synthetic turf throughout Europe. This phenomenon is also spurred by the tightening focus of football clubs on developing sustainable operating models. As it will be demonstrated in other sections of this report, synthetic turf allows much higher utilisation of valuable stadium facilities than natural grass.

There is a tendency of larger teams being willing to own their stadiums in Europe with the aim of having more control over one of their key revenue generating assets. Nevertheless, the overwhelming majority of football stadiums are publicly owned in most countries. While changing to synthetic turf often provides financial and strategic benefits relevant to both public and private owners, managers of privately-owned stadiums tend to be more focused on commercialising their facilities, so they are more open to considering the switch.

**Ownership map of stadiums in Europe as of 2010**



Privately-owned stadiums among first league clubs of each country

■ 50-100%   ■ 30-49%   ■ 10-29%   ■ below 10%

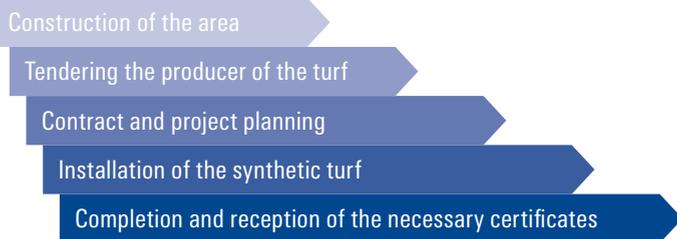
Source: UEFA, KPMG analysis

## The investment

Installing synthetic turf is an investment that brings the opportunity to benefit from higher utilisation of the facility for many years. Whilst the capital cost of developing a new synthetic pitch may represent a major financial investment for a club, the returns generated often provide the basis for a sustainable business model.

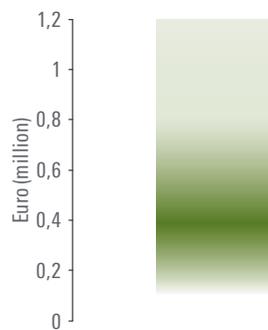
The costs of installation, testing and replacement are key items in the decision to replace a natural grass pitch with a synthetic surface. The price for a synthetic pitch depends greatly on the quality of the synthetic turf chosen, the base required, and other considerations regarding the existing premises and expected future use. For example, clubs with an ambition to play in European competitions need to consider that UEFA regulations demand synthetic turf be granted both local and FIFA certificates, the stadium must be equipped with a drainage system and, if necessary, other facilities to ensure that the field of play is playable on any match day during the whole UEFA competition season.

### Key steps in installing synthetic turf in football stadiums



The price of alternative types of turf varies greatly, with standard quality synthetic fields ranging from EUR 300,000 to over EUR 1 million in investment value. With more recent innovations, the synthetic turf is suitable for playing in the top-tier leagues, providing an even better playing experience. Under normal circumstances a natural pitch generally requires a lower investment value (EUR 150-350,000) than a synthetic pitch of standard quality.

### Typical investment value of switching to synthetic turf



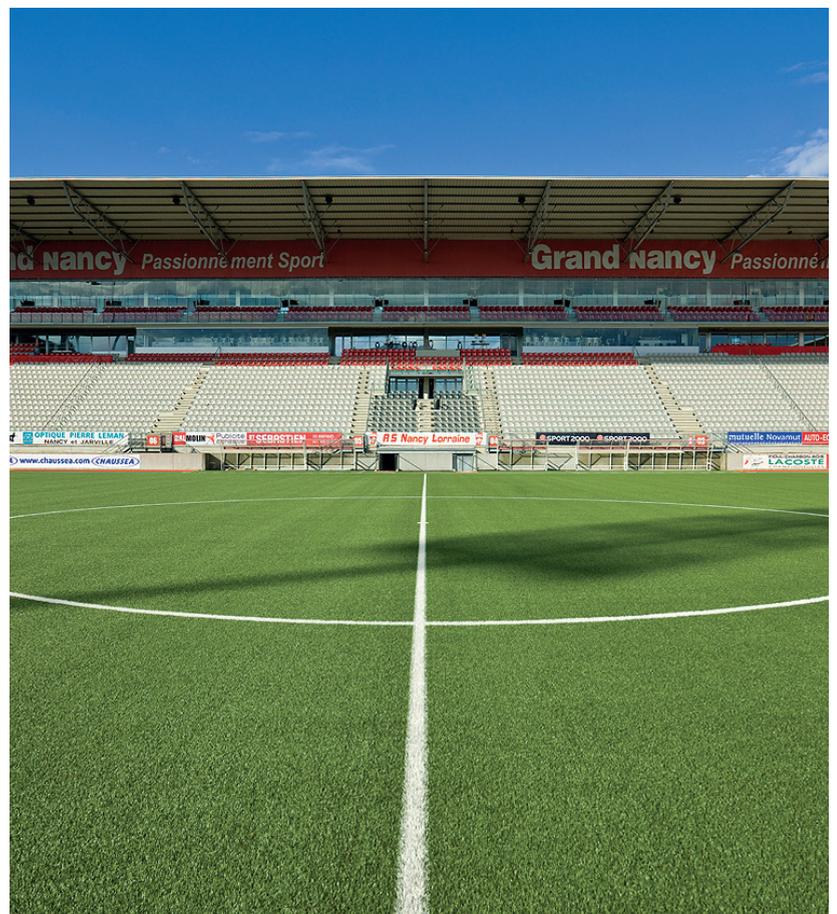
Source: KPMG research

Synthetic turf sports fields are typically warranted for eight years, but with proper maintenance can last for longer. The life expectancy of a pitch needs to be considered when assessing the investment decision of switching to synthetic turf. It is primarily contingent upon the quality of the product, the installation process,

climatic conditions, intensity of use, and not least by the level of regular maintenance.

Usually the surface of the turf requires more frequent renewal, while the sub-base has a longer life cycle. Replacing only the top layer amounts to approximately 50 per cent of the initial capital investment.

Investment into a synthetic pitch needs to be viewed in a medium-term perspective, as synthetic turf allows the opportunity for more intensive utilisation. In cases of intensive competition with other facilities in the vicinity, stadium owners willing to attract additional rental income from the pitch may need to upgrade other elements of the stadium such as perimeter fencing, floodlighting or a new public address system. On the other hand, the durability of synthetic pitches allows the option to share the costs with another club or with other funding bodies, making the required investment more manageable. This highlights the importance of a commercial approach to stadium management, substantiated by a proper business plan that links the investment with future revenue streams to be generated as a consequence of upgrading the facility and switching to synthetic turf.



# The four key arguments typically used to support the application of synthetic turf

In the following sections of our report we address the key arguments often used by industry stakeholders when presenting their case for installing synthetic turf. These arguments, which are strictly interrelated, but addressed individually hereafter, are as follows:

- 1) Increased frequency of usage;
- 2) Extra revenue generation;
- 3) Cost saving opportunities;
- 4) Strategic benefits.



## 1. Increased frequency of usage

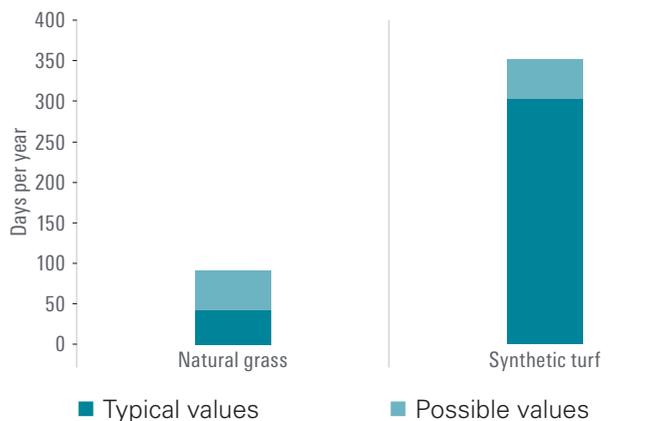
The condition of a natural pitch is very sensitive to the weather. Synthetic turf drains well in wet weather, players do not kick up divots and tufts of grass are securely anchored in the turf. While natural turf should not be played on during or immediately after a rainstorm, after the application of pesticides and fertilizers, or during months when grass does not grow, synthetic turf is always ready for play. In countries with inclement weather conditions, synthetic pitches are even equipped with underground heating systems that keep the synthetic turf ready for play even in the coldest temperatures.

The potential business case for switching to synthetic turf is primarily shaped by the facility owners' commercial

approach to the utilisation of the pitch, and how they are able to take advantage of the various benefits of using a synthetic playing surface more often. Synthetic turf offers the opportunity to generate a steady, year-round revenue stream, not dependent on the on-pitch performance of the club.

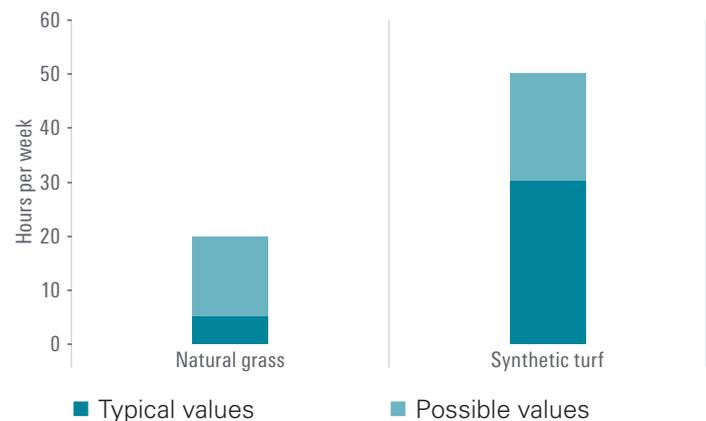
However, according to the guidelines provided by FIFA, usage of the synthetic turf should be restricted to between 36 and 48 hours a week to maintain the performance and durability of the surface. Excessively intensive use may not be compatible with maintaining the highest standard suitable for playing professional football. Therefore clubs need to strike a balance between commercial aspects associated with the usage of the pitch and maintaining a quality surface.

Annual utilisation of natural grass and synthetic turf



Source: KPMG research

Weekly utilisation of natural grass and synthetic turf



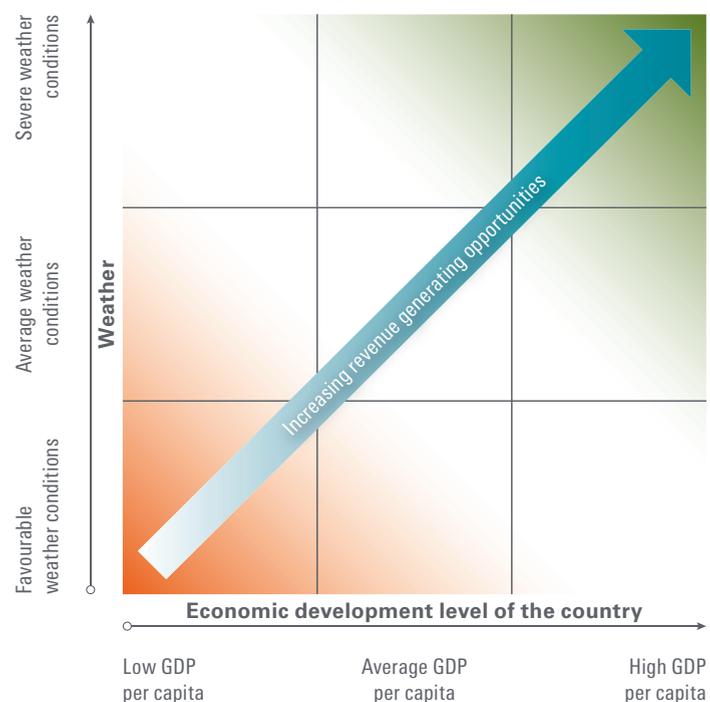
Source: KPMG research



## 2. Extra revenue generation

A fundamental aspect of the business case for switching to synthetic turf in a stadium is the opportunity for the facility owner to generate extra revenues that would not be possible if using a natural grass field. How much extra revenue may be generated varies greatly, case by case.

### Extra revenue generating opportunities from switching to synthetic turf



Source: KPMG research

The utilisation figures from our research about the actual usage patterns on an annual or weekly basis are quite revealing. Teams typically use synthetic turf over 300 days a year, excluding major clubs that have installed highly sophisticated systems. The comparative figure for use of natural grass pitches can vary between 30-70 days per year, depending on the number of clubs sharing the same facilities, the length of the league and other factors. As per the weekly statistics, clubs typically utilise synthetic turf 20-40 hours per week, in contrast to 5-10 hours of natural grass usage before they made the change. Again, major teams in the top leagues may prefer resting the pitch, even if synthetic, but they often have training grounds with synthetic turf for more regular usage, not necessarily putting pressure on the main field.

Besides football teams using the pitch to play their league matches, the installation of synthetic turf allows stadium owners to make much greater use of the pitch, including first team training, youth development training and youth team matches.

Non sport-related events may also be organised more frequently. We have found that, in more developed markets, clubs may organise as many as two corporate events per week in a stadium using synthetic turf. While the number of concerts are not typically high in stadiums with either types of pitch (1-2 concerts per year), the risks of the surface being degraded through non-sport usage is much lower in the case of synthetic turf, which provides a stimulus to organise more non-core events for commercial purposes.

Commercial income opportunities arise through pitch and stadium rental. In general, in countries with more extreme weather conditions, there is a shortage of playing fields with appropriate surface that allow play on a more regular basis. This stimulates higher demand for synthetic fields, leading to more commercial opportunities for stadium managers. Furthermore, it appears that clubs are more successful in generating revenues in economically developed markets, where there is higher consumer and corporate spending power.

Our research findings show that with a proper business plan and professional management, some clubs can generate respectable revenues on a weekly basis, by renting out their synthetic field. This would not be possible with natural grass fields, due to their much lower potential utilisation rate and the higher risk of surface damage.

Furthermore, as facilities employing synthetic turf are more utilised, there is scope for more intensified sponsorship activities, merchandising as well as food and beverage sales that may result in clear financial gains.

**Case study: FC Thun, Switzerland**

<b>FC Thun</b>	
<b>Club</b>	
Full name	Fussballclub Thun 1898
Founded	1898
<b>Stadium</b>	
Stadium name	Arena Thun
Stadium capacity	10 000
Opened	2011
Previous stadium	Stadion Lachen
Previous stadium capacity	10 350
Previous stadium opening date	1954
<b>City</b>	
City name	Thun
City population	42 623
Location	Central Switzerland
<b>Sport performance over the last 7 years</b>	
2010-2011 Championship position	5 (Europa League qualification)
2009-2010 Championship position	1 (second division)
2008-2009 Championship position	9 (second division)
2007-2008 Championship position	10 (relegation)
2006-2007 Championship position	7
2005-2006 Championship position	5
2004-2005 Championship position	2 (Champions League qualification)

FC Thun is a Swiss first-division football club who play their home games in the newly opened Arena Thun. The city of Thun is located in Central Switzerland and has a population of 43,000. The stadium, which opened in 2011, can host 10,000 people.

The new stadium opened at the end of a successful season by Thun. Following their promotion to the Swiss Super League by winning the second division, Thun qualified to participate in the Europa League. Their Europa League matches were played in the new Arena Thun, a leading example of a stadium with synthetic turf hosting international competition-level matches.

Prior to moving to the new arena, FC Thun could not utilise their previous field, Stadion Lachen, effectively. The natural grass pitch needed more maintenance and longer resting periods after events, therefore FC Thun could not organise events as often as their commercial opportunities would have justified it. In Stadion Lachen, revenue generation primarily concentrated on match days with little opportunity to host a range of non-sport events.

Since they switched to synthetic turf, FC Thun has managed to let their stadium for private & business (P&B) events twice a week. In the first year of operation there were more than 100 P&B events taking place in Arena Thun. From these events the club has managed to generate CHF 700,000 annually. According to management calculations, this is at least CHF 100,000 more than what would be possible with natural grass. The facility's utilisation rate may further improve with additional marketing activities and as the management team reaches out to more corporations.

FC Thun's event management strategy provides a good example of the benefits of higher utilisation. Their package for corporations includes access and utilisation of the whole stadium, with all facilities including the scoreboard and the pitch. Apart from the direct revenue from rentals, indirect revenues through showcasing the stadium to corporations as potential premium seat clients may also be substantiated.



### 3. Cost saving opportunities

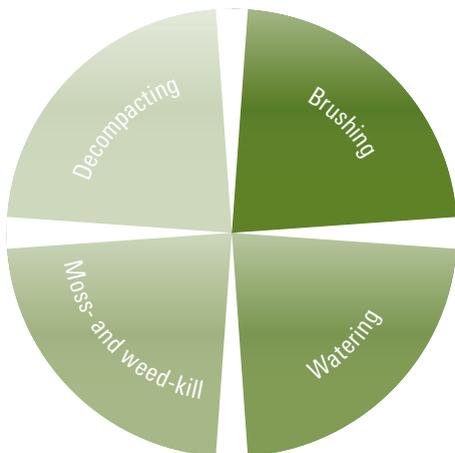
A primary source of financial benefits related to the adoption of synthetic turf is the potential savings that are to be achieved following its installation. These benefits can be classified in three main categories, as the following sections reveal.

#### Maintenance benefits

There is a common misconception that synthetic turf does not require regular maintenance, and may still endure hard usage patterns. In fact, maintenance of a synthetic pitch is different but just as important as it is for a natural grass pitch.

If synthetic turf is to be made a worthwhile investment, it requires regular and carefully scheduled maintenance. Maintenance is important to enable synthetic turf to withstand the heavy use that it is often subjected to, and to ensure its performance, longevity and safety over its lifetime. Regular maintenance is also required as part of the FIFA Quality Concept certification process.

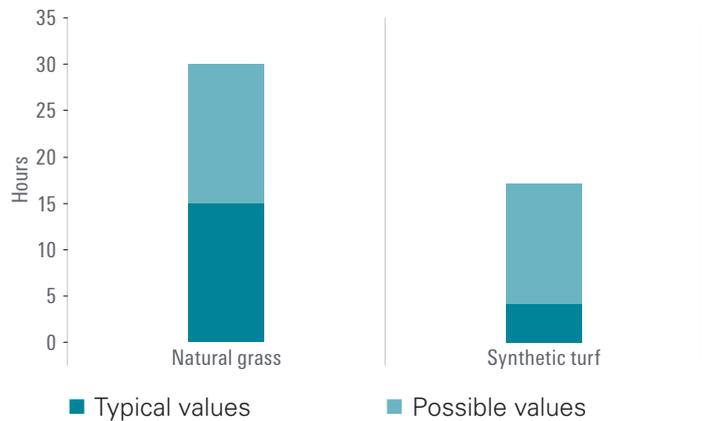
#### Typical maintenance activities, in order of frequency



How often the specific maintenance activities are needed greatly depends on environmental conditions, including weather characteristics, pollution factors in close proximity to the field, as well as usage patterns. This primarily influences the level of maintenance costs of the pitch.

According to our research, the number of hours spent on maintenance, and the number of employees engaged in maintenance activities can be significantly less for synthetic turfs. There are examples of carefully maintained turfs that need only a few hours of maintenance per week, 2-4 times less than similar figures for natural grass fields.

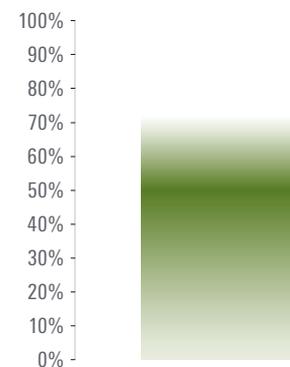
#### Number of hours per week spent on maintaining the natural grass and synthetic turf



Source: KPMG research

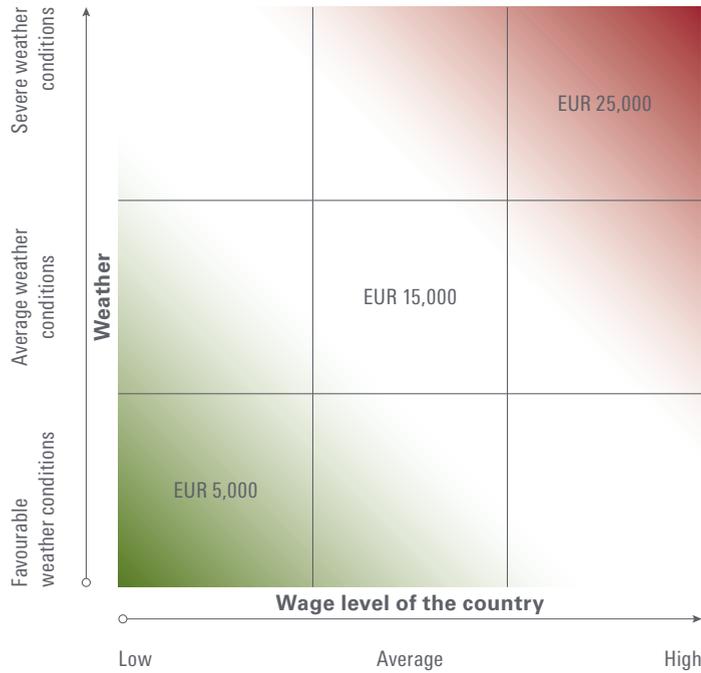
As a consequence, the cost of maintaining a synthetic turf may be significantly lower than that of maintaining natural grass pitches. Typical values range between EUR 5-15,000 annually, as opposed to the maintenance costs of natural grass pitches that may reach over EUR 20,000. Savings may easily reach 50-60 per cent of the maintenance costs of a club's former natural grass field. Naturally, cost savings are also influenced by weather severity and a country's average wage levels. Furthermore, for clubs where water costs are significant or the climate is much warmer, savings could be even more considerable.

#### Annual maintenance savings by changing to synthetic turf



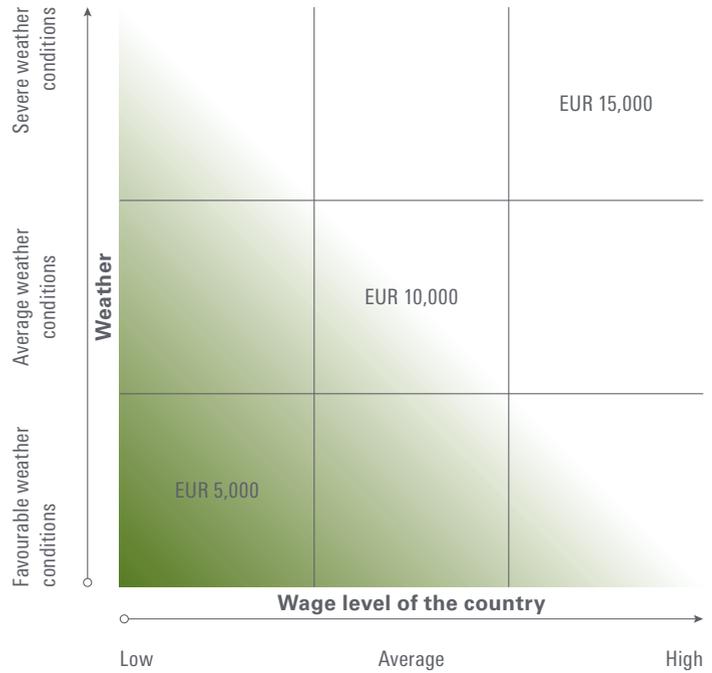
Source: KPMG research

**Typical values for annual costs of maintaining natural grass**



Source: KPMG research

**Typical values for annual costs of maintaining synthetic turf**



Source: KPMG research

While the general trend is that maintenance costs are lower for synthetic fields, with more usage, maintenance costs will naturally rise.

**Saving space**

Most clubs that use natural grass fields need to maintain several additional training grounds as the natural surface may not tolerate intensive daily usage. These grounds are not always located on the club's premises, therefore clubs often need to rent fields from other organisations, incurring additional operating costs. According to our findings, removing the need to rent a training pitch for the first and youth teams can represent significant cost savings for such clubs.

Synthetic grass is a space-saver. Because it can be played on for a longer period of time, football clubs do not need as many different fields as they would need in case of natural grass pitches. Depending on utilisation patterns, a synthetic field may be the equivalent of three to four well-maintained natural turf fields in terms of usage time. The replacement of natural grass with one or more synthetic pitches can even provide the opportunity to sell some of the space saved because of the installation of synthetic turf. This can be a particularly lucrative opportunity when the land in question is located in a highly valuable urban area.

**Reduced risk of postponing events**

The cost of cancelling and rescheduling events, including league fixtures and training sessions, can be significant. The resistance of synthetic turf to more adverse climatic conditions implies a reduced risk of postponements or the abandoning of events.



### Case study: FK Banga, Lithuania

<b>FK Banga</b>	
Club	
Full name	Football Club Banga
Founded	1966/2006
Stadium	
Stadium name	Gargzdai Stadium
Stadium capacity	2400
Stadium opening year	2008
City	
City name	Gargzdai
City population	16 814
Location	Western Lithuania
Sport performance over the last 4 years	
2011 championship position	6 (Europa League qualification through domestic cup)
2010 championship position	6
2009 championship position	6
2008 championship position	3 (second division)

FK Banga is a professional first-division football club in Western Lithuania, playing its home games in the city of Gargzdai in the Gargzdai Stadium. The club moved into its new stadium in 2008, the same year as they were promoted to the first division.

Since overly heavy usage of the natural pitch would have been harmful and would have affected the field's condition on match days, FK Banga was not able to train in the stadium more than 20-30 times per year. This led to renting pitches for the purpose of training.

In 2010 FK Banga swapped out its natural grass, installing synthetic turf in the Gargzdai Stadium. Since installing synthetic turf, FK Banga has trained in the stadium more than four times per week, adding up to over 200 times per year. Before installing synthetic turf, the youth team trained in the stadium 20-30 times per year, much less than the current rate of 160 times per year.

Moreover, since the change of surface, the club has decreased the risk of postponed training due to unplayable pitch conditions, and has also benefited from saving on rental costs for other grounds. Their savings in this field reached over EUR 12,000 per year.

For teams aiming to decrease, or even eliminate, the costs of renting training grounds, FK Banga is an example worth following.

### Case study: AS Nancy, France

<b>AS Nancy</b>	
Club	
Full name	Association Sportive Nancy-Lorraine
Founded	1967
Stadium	
Stadium name	Stade Marcel Picot
Stadium capacity	20 087
Opened	1926
Complete renovation	2003
City	
City name	Nancy
City population	105 400
Location	North-Eastern France
Sport performance over the last 7 years	
2010-2011 Championship position	13
2009-2010 Championship position	12
2008-2009 Championship position	15
2007-2008 Championship position	4 (UEFA Cup qualification)
2006-2007 Championship position	13
2005-2006 Championship position	12 (UEFA Cup qualification through League Cup)
Historically, 2 times cup winners	

The Marcel Picot Stadium is the home of AS Nancy, a first-division club in France. The stadium was completely rebuilt in 2003 to a capacity of over 20,000 seats, in a city with a population of just over 100,000 people.

By the time of France hosting the UEFA Euro 2016, AS Nancy plans to upgrade the recently rebuilt stadium and construct a retractable roof. As the roof tends to hinder the proper maintenance of a natural grass pitch, facility owners decided to switch to synthetic turf. The installation of the new turf was successfully completed in 2010. The retractable roof however is yet to be constructed.

According to management calculations, the number of hours spent on maintenance has halved since the club switched to synthetic turf. When the club used a natural grass pitch, AS Nancy spent approximately 40 hours per week on maintenance of the pitch. Since synthetic turf was installed, this rate has decreased to 20 hours per week, resulting in considerable savings in wages and maintenance costs.

Apart from saving costs, AS Nancy has managed to host more events since changing to synthetic turf. In 2011 the club hosted 40 more events than in past years and increased its rental income by EUR 20,000. The case of AS Nancy highlights how a strategically driven investment into synthetic turf may bring financial benefits to the club, if properly managed.

#### 4. Strategic benefits

The fact that synthetic turf fields may be used more frequently allows for new avenues of utilisation that may generate extra revenues, as well as broader benefits.

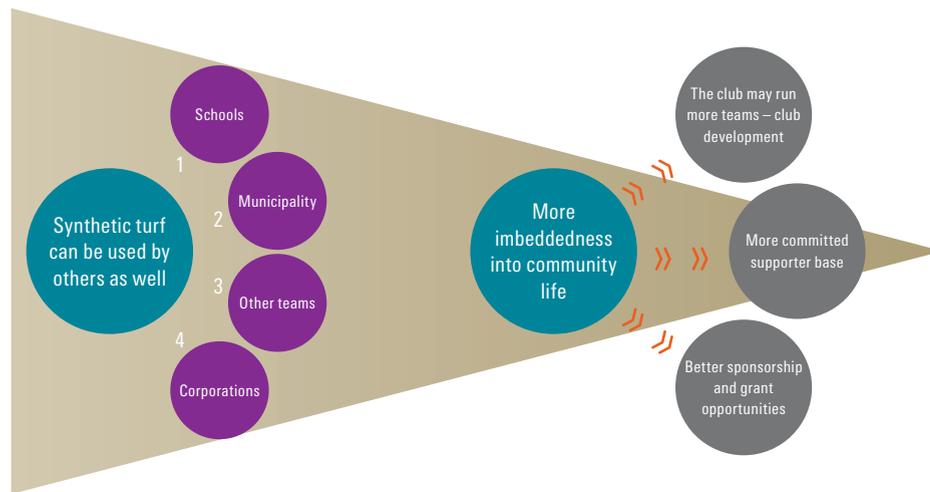
In general, a synthetic turf can enable greater community access to a stadium. The synthetic pitches of football clubs can be used during the day by schools, while such intensive shared use is often impracticable on a natural grass pitch. However, our research findings show that greater community access is not really viable in case of first and second division clubs in more developed football markets.

Some smaller and mid-sized clubs have a clear strategic focus on community involvement, and may let the pitch to community groups at rental rates significantly below the amount they would charge to commercial organisations.

Such schemes may attract new people to a football stadium who may help generate additional revenues directly, for example through food and beverage spending. More importantly, this can tie additional people to the club, strengthen the loyalty of the supporter base, and raise the club's importance to the local community.

Strategic benefits are especially crucial when a pitch is under public ownership, or has been financed with some public support, as the financing/operating agreement may include terms for a certain measure of community usage. The potential for providing greater community access to a stadium could also be a key factor in securing public participation in future stadium development projects.

#### Strategic benefits of using synthetic turf

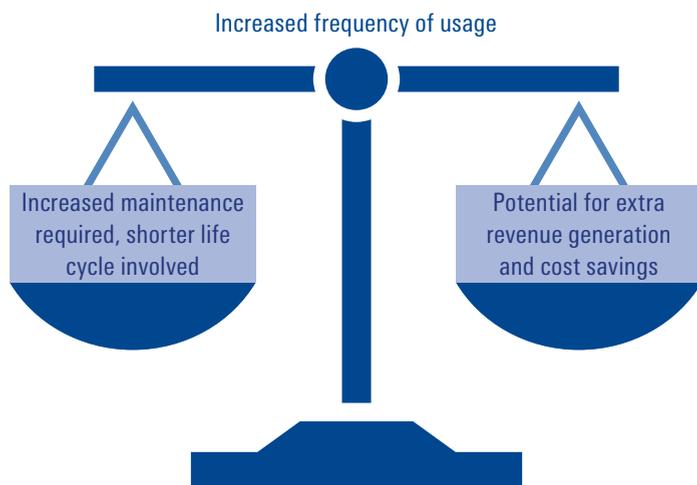


# Conclusion: cost-benefit assessment

The potential business case for switching to synthetic turf is primarily shaped by how clubs are able to take advantage of the various benefits of using their turf more often. With the opportunity to generate additional revenue, realise cost savings and boost community engagement, using synthetic turf seems to be an option worth considering, at the very least.

The costs and benefits of investing into synthetic turf need to be assessed carefully. On one hand, the increased frequency of usage allowed by synthetic turf compared to natural fields may bring opportunities for generating extra revenues as well as realising cost savings. On the other hand, if utilisation increases significantly, the maintenance costs of synthetic turf tend to increase and its life expectancy tends to decrease compared to a less intensively utilised synthetic turf. Facility managers need to strike a balance between aiming for extra revenues and cost savings from higher utilisation and the increased maintenance requirements and shorter life cycle involved.

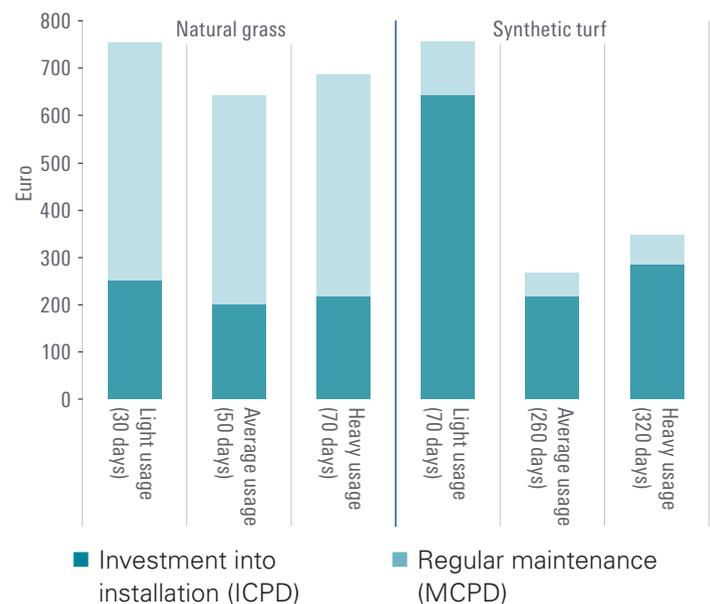
## Investment in synthetic turf



A synthetic pitch is initially more expensive to install than a natural grass pitch, and the life expectancy of synthetic fields is usually more limited, as well. Yet because maintenance costs for synthetic turf are generally lower and synthetic turf can be played on far more intensively, the costs per playing day can be lower than for natural grass. This ultimately makes a well utilised synthetic turf more cost effective than a natural grass pitch, in terms of Investment Cost per Playing Day (ICPD), and even more so in terms of Maintenance Cost per Playing Day (MCPD). On average, for more utilised fields, the Total Costs per Playing Day (TCPD=ICPD+MCPD) are approximately twice as high for natural fields.

However, if a club decides not to utilise its synthetic fields intensively, TCPD values are in a similar range to that of natural fields. Teams playing in top-tier leagues in more developed markets tend to restrict access to their fields; consequently the TCPD figures for their fields tend to be relatively high, regardless of whether they use natural or synthetic pitch. For teams that take advantage of the higher durability of the synthetic pitch and use their fields much more intensively, the Total Costs per Playing Day are significantly more favourable than that for natural grass.

## Total costs per playing day (TCPD)



Source: KPMG research

Note: Time value of money was not considered because of the significant variations in the rate across different countries.

Assuming the construction and the installation of the turf was delivered properly.

Assuming the turf is maintained properly to provide a quality playing surface continuously.

When assessing the investment decision of replacing natural grass with synthetic turf the opportunities for extra revenue generation, saving space, cost savings from external rentals and maintenance, as well as potential strategic benefits from greater community usage should be considered.

The findings of our research show that whether or not a business case for switching to synthetic turf exists depends primarily on the commercial approach of facility managers and the market conditions in which the club operates; regardless, what is apparent is the usability of a synthetic turf surface all year round.

# Appendix: ESTO full members



European Synthetic  
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