FIFPRO

In cooperation with

KPMG

2021

FIFPRO PLAYER WORKLOAD MONITORING

Annual Workload Report – Men's Football

00 ABOUT

FIFPRO PLAYER WORKLOAD MONITORING (PWM) PLATFORM

Launched in early 2021, the FIFPRO PWM platform is a digital tool tracking the workload status of professional football players from around the world.

FIFPRO PWM is a player-centric, match scheduling and workload monitoring, platform developed and operated jointly by FIFPRO and KPMG Football Benchmark. It is part of FIFPRO Player IQ Hub, a player-focused knowledge centre that aims to help shape decisions in the football industry to protect and improve the careers and working lives of footballers.

FIFPRO PWM combines world-leading scientific knowledge with data insights to monitor player workload and match scheduling across different competitions. The platform is an analytics tool that will enable better decisions to be made in relation to future competitive scheduling, making competitions more sustainable and putting players' health, careers and performance first. The rich database held within FIFPRO PWM's continuously evolving platform is the source of the analysis presented within this Full Season Report.

The FIFPRO PWM platform is freely accessible at FIFPRO's Player IQ Hub website, and at the KPMG Football Benchmark website. Please visit the platform to see information on all of the 265 male players featured within this report. The platform also contains workload data and analysis on 85 female players.

The tool is freely accessible at the FIFPRO and the KPMG Football Benchmark websites.

FIFPRO PWM FULL SEASON REPORT

The full season report analyses match workload, rest & recovery periods, periodic fixture congestions and travel load, amongst many other areas. We also look briefly at the upcoming match calendar and highlight issues that will shape the workload discussion over the next year or so.

KPMG FOOTBALL BENCHMARK

KPMG Football Benchmark is a digital data & analytics platform that includes financial and operational performance data from over 200 European and South American professional football clubs and the social media performance metrics of hundreds of football clubs and players. The platform also provides market value estimates for over 6,000 players from the best European and South American leagues and clubs.

00 INTRODUCTION

RETHINKING PLAYER PROTECTION AND COMPATIBILITY OF COMPETITIONS

BUILDING A NEW INTERNATIONAL MATCH CALENDAR

Collective decisions around the international match calendar (IMC) in professional football, the global compatibility of competition formats and the urgent need for player safeguards are more important than ever.

New formats for club and national team competitions are proposed on an almost monthly basis, without the necessary considerations for existing competitions and required player safeguards.

Whatever changes are made on the competitions side, strong player safeguards and protections are crucial to support and maintain players' high performance, availability and to allow for sustainable career paths. To that end, FIFPRO considers the following principles to be key:

BACK-TO-BACK MATCHES:

Pro-actively limit back-to-back matches to mitigate injury risk and mental burn-out

REST & RECOVERY:

Support long-term performance by allowing sufficient time for recovery and training

SEASON BREAKS:

Protect the full recovery of players by protecting and enforcing in- and off-season breaks

INTERNATIONAL TRAVEL:

Lower heavy travel demands on individual players, including time zone crossings and exposure to extreme climate conditions

01 THE MATCH CALENDAR: UNDERMINING PLAYERS & COMPETITIONS

NO COMPETITIONS CAN BE ADDED WITHOUT RETHINKING THE IMC AND PLAYER SAFEGUARDS

The current format of the international match calendar is under extreme pressure from all stakeholders, as global economic and social trends – accelerated by COVID-19 – are changing the football industry. Internationalisation, consumer dynamics, digitalisation and technology are all driving competition organisers to re-consider current competition design at national, regional and international levels.

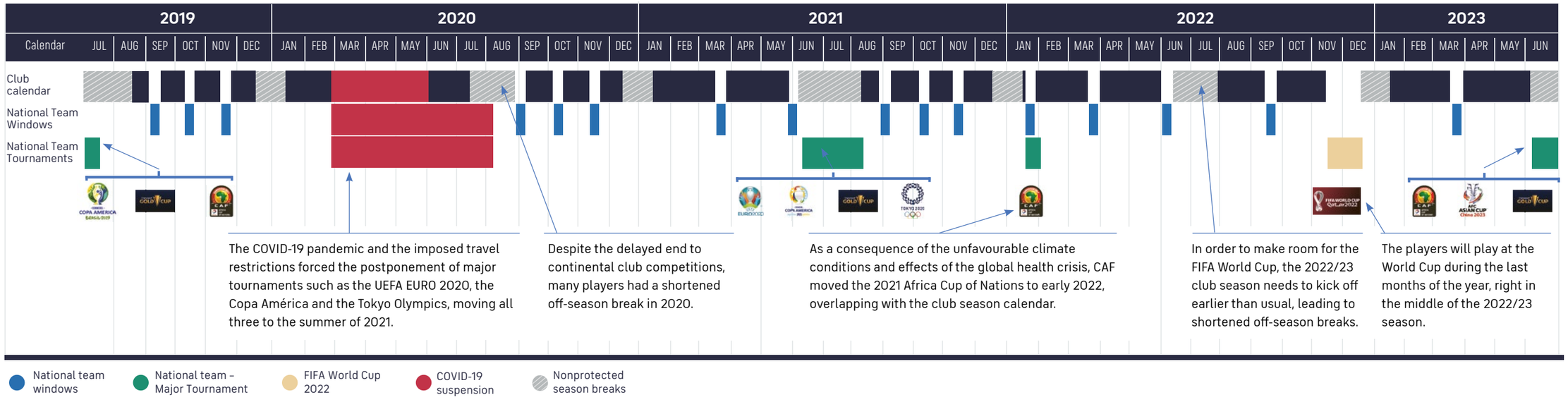
There are almost no „football-free" periods in the current calendar; there are no safeguards that would prevent excessive workload. We are convinced that new competitions must not be added before the calendar is comprehensively reformed with the players' interests at heart.

"Some of the football we are seeing at the moment is drab. Poor games played by exhausted players in a season where there is no time to rest, no time to recover. The quality of matches is suffering. I'd say the intensity and the standard of 75 per cent of games has dropped off dramatically, a consequence of so many matches in so little time and with no time to stop."

Alan Shearer
(former player and football analyst)

Major concerns about the current calendar:
- ongoing and overlapping competition cycles
- insufficient rest and recovery time between matches
- unprotected off- and in-season breaks
- high demands on travel, time zone crossings and extreme weather changes

Breaks in the club football calendar are filled with national team windows



We were clearly tired, we have had several travels and tough matches and we suffered a bit from the strong line-up at Wembley and the guys could not find their rhythm and structure for counter-pressing and we tried to change the system which didn't really well.

Thomas Tuchel
Chelsea FC,
Head Coach

TABLE OF CONTENTS

02

KEY FINDINGS

RETHINKING PLAYER PROTECTION

There is general recognition of increased injury risk to players who are consistently exposed to match overload. However, the wider effects of workload on players' capacity to train, develop, recover and remain mentally resilient, or to have sufficient time for their families, remains largely ignored. This is a critical issue for players' health and for the sustainable development of football. As such, a holistic and player-centric approach is required to rethink the current international match calendar reform process.

02 KEY FINDINGS

CRITICAL WORKLOAD FACTORS ACROSS THE LAST THREE SEASONS

The heavy workload is posing increasing and unsustainable demands on players; data from the PWM platform show that while knock-on effects of the COVID-19 pandemic are seen across club and national team calendars in every continent, the current format of the international match calendar is not meeting the requirements of the professional football industry for the next decade.

CRITICAL ZONE & BACK-TO-BACK MATCHES

- Playing time in the "critical zone" has been on the rise **across the board**
- The share of minutes played in the critical zone has **steadily increased for an average player,**
- Top players appear in more than **60 or even 70 games in one season**
- They play **70-75% of their minutes in back-to-back matches** with alarming **peaks of up to 80%**

REST & RECOVERY

- 5 days of rest & recovery time is afforded on average for **less than half of the matches,**
- Some played more than **two-thirds of their games without time for proper recovery**
- The number of appearances without sufficient rest (5 days) in a season has been on the rise
- The **constant rhythm of mid-week and weekend matches**, is undermining recovery processes and the ability to train

SEASON BREAKS

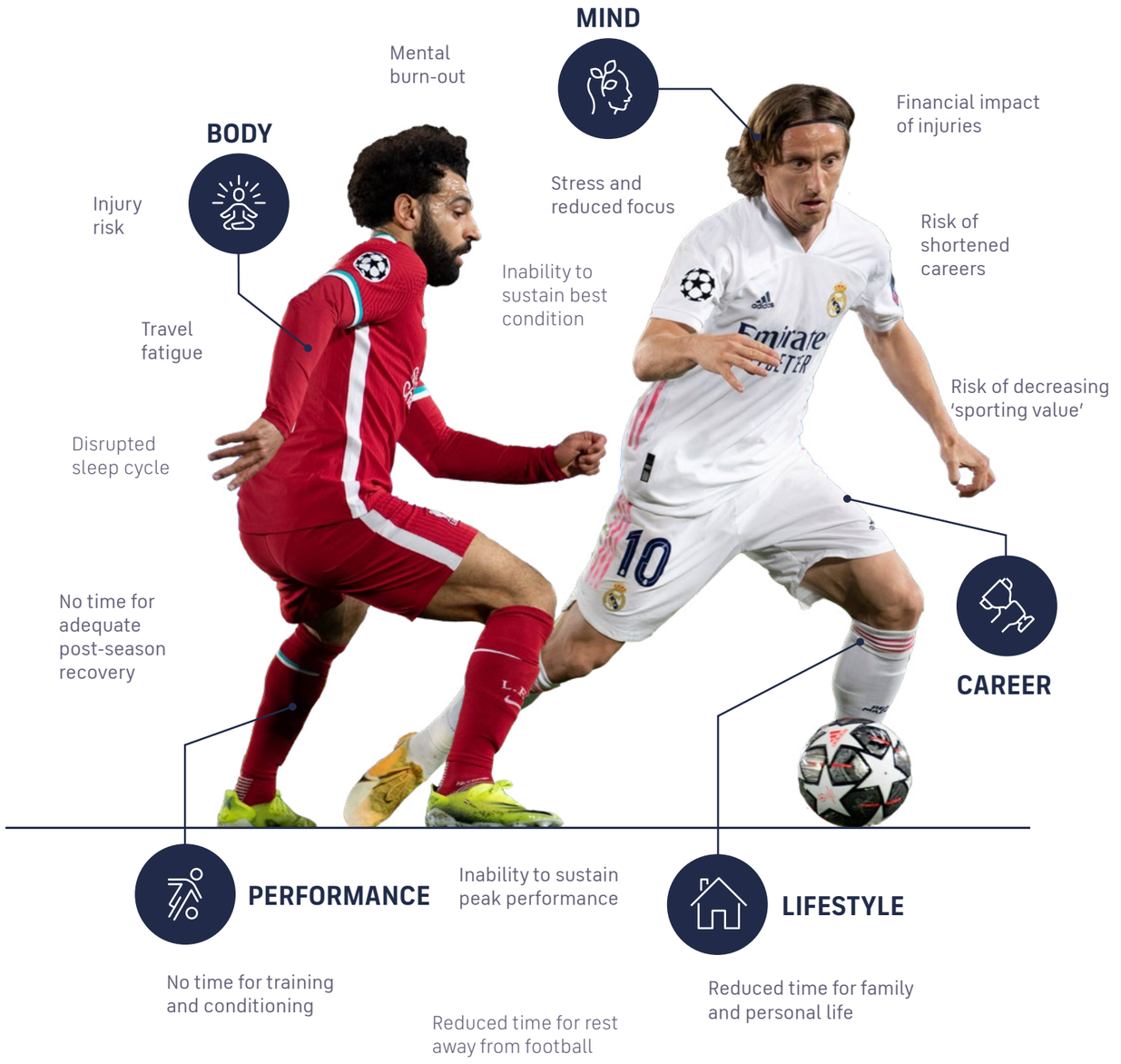
- Over the last three seasons, 45% of off-season breaks did not meet the minimum recommended length (28 days)
- Players based in **UEFA territory have the least amount of time between seasons**
- Some players only had **11 days** for off-seasons on average after each season across the past three years
- Regular national team players are the most impacted group with an important tournament or qualifying games scheduled for almost every summer
- Players in some countries experienced the opposite extreme: long break in play due the COVID suspension or cancellation of competitions in 2020

INTERNATIONAL TRAVEL

- Players can accumulate close to **100,000 kilometers of international travel in just one season**
- Travel for national team competitions has a significant impact on individual player travel
- Crossing of time zones and exposure to changing (extreme) climate conditions in short periods of time impact players' health and performance but are largely unaccounted for
- National team travel requirements (e.g. **FIFA World Cup Qualification**) create significant differences between players

UNDERSTANDING THE NEGATIVE IMPACT OF EXCESSIVE WORKLOAD AND ONGOING COMPETITION CYCLES

Excessive workload has many detrimental effects on players and competitions. The negative impact of individual match workload and continuous competition cycles is aggravated by the absence of individual and collective safeguards. This causes major harm to players and the game, ultimately also undermining the sporting value of competitions. Here are the most common negative effects.



03

PLAYER IMPACT
MATCH WORKLOAD & CRITICAL ZONE

Many players are playing increasingly more minutes without sufficient rest; this is a phenomenon most commonly seen amongst those at the very top of the game, but they are not the only ones being affected.

03 PLAYER IMPACT

MATCH WORKLOAD & CRITICAL ZONE

Whilst the increase in match workload and critical zone playing minutes can be seen at most levels of the football industry, it is most prevalent at the top levels of the game. Whilst the trend of an increasing number of annual tournaments has been clear for a while now, the disruption caused by the COVID-19 pandemic has compounded the problem.

As the disruption of the football industry continues, the struggle between old and new competition formats is at the forefront of the discussions. For many players the current competition calendar leads to excessive match workload. It is not unusual for some players to play in more than 60 or 70 games, in a single season.

Whilst the normal rhythm of the industry was severely disrupted by the COVID-19 pandemic in early 2020, with almost all competitions coming to a halt, players weren't able to find much down-time given the uncertainty around the immediate future of play. Eventually, after a few months, a large proportion of competitions were able to be restarted and finished. Postponed matches had to be played within a tight timeframe and the 2020/21 seasons were not able to start on time. This led to knock-on effects across club and national team calendars on every continent, creating fixture congestion and severely reducing the rest and recovery time afforded to many players.

As explained in Chapter 01, the 2021/22 and 2022/2023 season calendars do not currently provide for any improvement.

THE NEGATIVE IMPACT OF TOO MANY BACK-TO-BACK MATCHES

Some might argue that a high number of games over the course of a season should not in itself be an issue for elite athletes. In fact, some consider it to be desirable that they are subjected to a constant stream of high-quality matches in order to achieve their full sporting potential. However, when the calendar becomes congested and players have to participate in back-to-back matches without adequate rest and recovery periods, this has a detrimental effect on the player's training and tactical exercises, recovery, and the quality of the competition in general.

In this analysis we make use of the term **'critical zone'** in order to identify matches that potentially put too much strain on the players: such appearances mean that the player was on the pitch for at least 45 minutes, also played 45 minutes in the preceding game and – crucially – did not have at least 5 days of rest between them. The total playing time of such matches is called "critical zone minutes" in the report.

The football industry will need to assess for the next generation of match calendars how many minutes/or matches a player can play in the critical zone and of when the player is required to rest and recover for a short period.

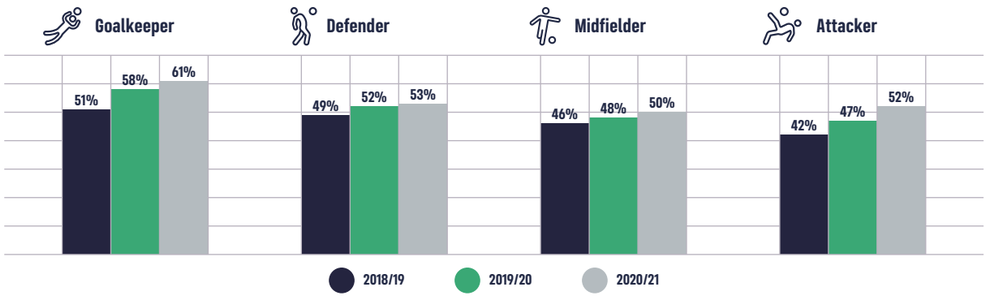
It is clear that, for an average player over the course of the last three seasons **the share of minutes played in the critical zone has steadily increased.** In 2018/19 the average critical zone minutes was 46.9%, increasing significantly to 50.3% during the COVID-affected 2019/20 season, and up to 52.7% in the 2020/2021 season.

This finding clearly shows that the match calendar has become more congested for more players since 2018.

ANALYSIS BY PLAYING POSITION

- The share of critical zone minutes have increased across the board for every playing position.
- It is apparent that goalkeepers had the highest average share every season. The reason behind that is the fact that they are very rarely substituted, which means that it is "easier" for them to meet the criteria for an appearance to be in the critical zone.
- Even with the introduction of the five substitution rule in many competitions, there have been comparatively more and more playing time in the critical zone of high workload since 2018/19.

Percentage of minutes played in the critical zone by player position

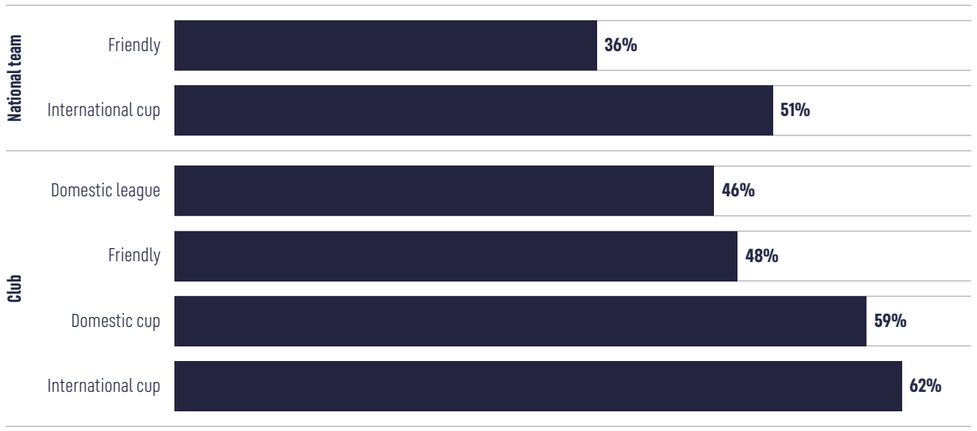


Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

ANALYSIS BY COMPETITION TYPE

- The highest percentage of critical zone minutes can be seen in the case of international club competitions and domestic cups, which is not surprising given that these competitions are most often played mid-week, between league fixtures. Players are likely to have played a match the weekend before.
- Friendly matches might seem to have a relatively low percentage, however it should be noted that the removal of these games from the calendar would free up rest days for most players and potentially decrease the critical zone minutes of other competitions. However, such restructuring must take into account that not all friendlies are the same. Those that take place before the start of the season are important for players to get into shape, while other friendlies during or right after the season, are generally organised to create more revenue for the clubs and are therefore not in the best interests of the players.

Percentage of critical zone minutes by competition type across all players in the PWM sample



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

THE EFFECT OF MULTIPLE MATCH EXPOSURES

BY DARREN BURGESS, EXTERNAL FIFPRO CONSULTANT & HIGH-PERFORMANCE MANAGER

It is becoming increasingly obvious that the effects of player workload, and in particular the number of back-to-back matches, on player health and wellbeing, needs addressing. The data presented in the FIFPRO Player Workload Report highlights the increasing demands on players due to more congested domestic fixture programmes, increased number of international club competitions and more demanding international windows.

As medical and fitness practitioners, we know that players subjected to excessive fixture requirements, including multiple back-to-back match scenarios, are exposed to a greater risk of a range of consequences. These can include, but are not limited to:

Sleep Disruption – back-to-back matches almost always involve evening games and either domestic or international travel, which significantly affects sleep rhythm

Training Consistency – training in between back-to-back matches is minimal, with lack of recovery being the obvious concern. This prevents regular training exposure which can provide the players with some injury protection. This is particularly relevant for resistance training, which is often left out during busy schedules

Travel Fatigue – multiple travel experiences can lead to travel fatigue which can affect sleep, performance and mood. This excessive travel often results in poor nutrition

Increased Injury Risk – Crucially, the combination of excessive match exposure, travel fatigue, poor sleep, and lack of relevant training, leads to an increased injury risk being placed on players exposed to these busy schedules

Mental Health Issues – Poor sleep hygiene, travel fatigue and increased stress associated with multiple match exposures, can often come at a high mental cost for players

These issues require effective safeguards for player wellbeing and performance, which remains the priority.

BIOGRAPHY

Darren is currently the High Performance Manager at Melbourne Football Club. Previously, he held senior performance roles at Arsenal FC, Liverpool FC, Football Australia and Port Adelaide (AFL). Darren has also lectured in Excercise Science at Australian Catholic University and completed his PhD in 2012. Furthermore, he has published multiple papers in peer-review journals and speaks regularly at international conferences.

ANALYSIS BY PLAYER PROFILE

WHAT TYPE OF PLAYERS HAVE HAD THE HIGHEST WORKLOAD?

Not every player has to contend with the same match calendar and rhythm to their season. In order to get a better picture of the state of the game, we have divided our player sample into three distinct player profiles:

Profile	Minutes and critical zone % of an average player in the playing group (profile)			Key findings
	2018/19	2019/20	2020/21	
DOMESTIC PLAYING GROUP (PLAYERS MOSTLY EXPOSED TO DOMESTIC WORKLOAD): players whose match schedule is mostly made up of domestic games; those in this category played a maximum of four national team or international club competition matches within the same season combined.		**2,985** minutes on pitch, of which **905** minutes in critical zone (~9.5 full matches) **30.3%** of all minutes played in the critical zone	**2,468** minutes on pitch, of which **995** minutes in critical zone (~10.5 full matches) **40.3%** of all minutes played in the critical zone	**2,421** minutes on pitch, of which **1,027** minutes in critical zone (~10.8 full matches) **42.4%** of all minutes played in the critical zone	▪ Relatively similar number of average minutes in critical zone across all three seasons per player ▪ The share of such on-pitch minutes increased in 2019/20, mainly due to the congested calendar after the COVID suspension. This trend continued into 20/21 ▪ However, since these players rarely had any international match commitments, their heavy workload matches were more spread out during the course of a season
INTERNATIONAL PLAYING GROUP (PLAYERS FREQUENTLY PLAYING INTERNATIONAL COMPETITIONS): players who in addition to their domestic competition duties played at least fifteen national team or international club matches in the same season. These players are mostly key members of their respective clubs and/or are regulars in their country's national team setup.		**4,869** minutes on pitch, of which **2,484** minutes in critical zone (~26.1 full matches) **51.0%** of all minutes played in the critical zone	**4,373** minutes on pitch, of which **2,409** minutes in critical zone (~25.4 full matches) **55.1%** of all minutes played in the critical zone	**4,409** minutes on pitch, of which **2,494** minutes in critical zone (~26.3 full matches) **56.6%** of all minutes played in the critical zone	▪ Number of minutes played in the critical zone has been remarkably consistent for this group, always between 2,400 and 2,500 minutes per season ▪ In the COVID-affected 2019/20 season, most high-profile continental club tournaments could eventually be finished after a suspension, although this generally meant that matches needed to be played with a tighter schedule ▪ This led to an increase in the share of critical zone minutes, a 4.1% increase compared to 2018/19. The breakneck pace of the calendar was still apparent in 2020/21, although the increase was more limited
HIGHEST WORKLOAD PLAYING GROUP (PLAYERS WITH THE MOST MINUTES PLAYED): the twenty players in the PWM platform with the most minutes played across all competitions in a season. Players with this profile generally make it far in international competitions (e.g. Kylian Mbappé), play a lot of national team games (e.g. Lionel Messi) and are ever-present in their teams (e.g. Harry Maguire). They are international players at the very top of the professional game.		**5,872** minutes on pitch, of which **3,564** minutes in critical zone (~37.5 full matches) **60.6%** of all minutes played in the critical zone	**5,457** minutes on pitch, of which **3,316** minutes in critical zone (~34.9 full matches) **60.8%** of all minutes played in the critical zone	**5,759** minutes on pitch, of which **3,861** minutes in critical zone (~40.6 full matches) **67.0%** of all minutes played in the critical zone	▪ Much more critical zone minutes than other groups, on average close to 6,000 ▪ Although the introduction of the 'five-substitution rule' in most leagues temporarily decreased the strain on these players (see lower overall minutes in 2019/20), a year later their total playing time was almost back to 2018/19 levels ▪ What is more worrying is that in 2020/21 this group's players recorded an average of 67% critical zone minutes; meaning more than two-thirds of their matches were played without insufficient rest and involved long playing times. Some players within the group recorded much higher percentages (in the region of 70-75%), i.e. practically no rest and high utilisation throughout a long season

Note: one circle indicates 500 minutes of on-pitch playing time.

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

ANALYSIS BY MONTHS
WHICH PERIODS ARE THE BUSIEST?

Having established that certain player profiles, positions and competition types are characterised by a very high critical zone share percentage (when taken as an average over the course of a season), in this section we explore this metric within the season itself. This provides us with an interesting new perspective – that well-prepared players can withstand a high critical zone workload as long as it is spread out fairly evenly across the season. But the question is, what happens if games come back-to-back and within short bursts?

Looking at the volume and relative share of such appearances and the on-pitch playing time, it is possible to assess the workload rhythm of players and identify periods of "underload" (fewer than usual games), as well as congested periods of high workload that could threaten the mental and physical well-being of the players.

Over the next few pages, we are going to introduce one player from every major confederation and analyse their workload since 2018. There are two main indicators to assess:

- **Percentage of minutes played in the critical zone by month:** a ratio above 60-70% indicates the presence of multiple back-to-back matches in the player's calendar. Consecutive months with such a high percentage can be detrimental to the player because it means that he does not get sufficient rest & recovery time.

- **Number of appearances in the critical zone by month:** somewhat similar to the other indicator, this one sums up the number of matches they player played in a month that was in the critical zone. Four or five appearances like this within one month can already have adverse effects.

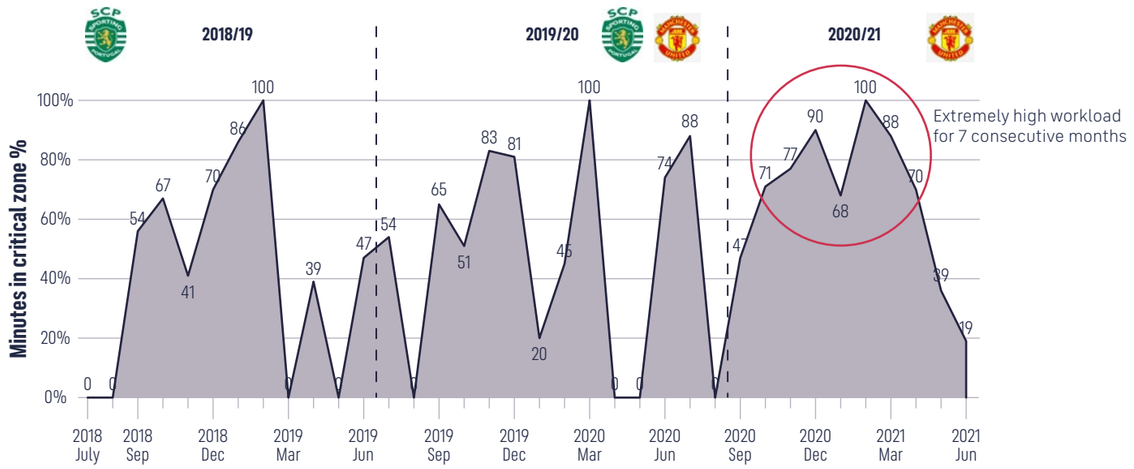
Note that the most extreme workload burden for a player are the months in which the critical zone minutes percentage and the number of critical zone matches are both very high.

UEFA BRUNO FERNANDES

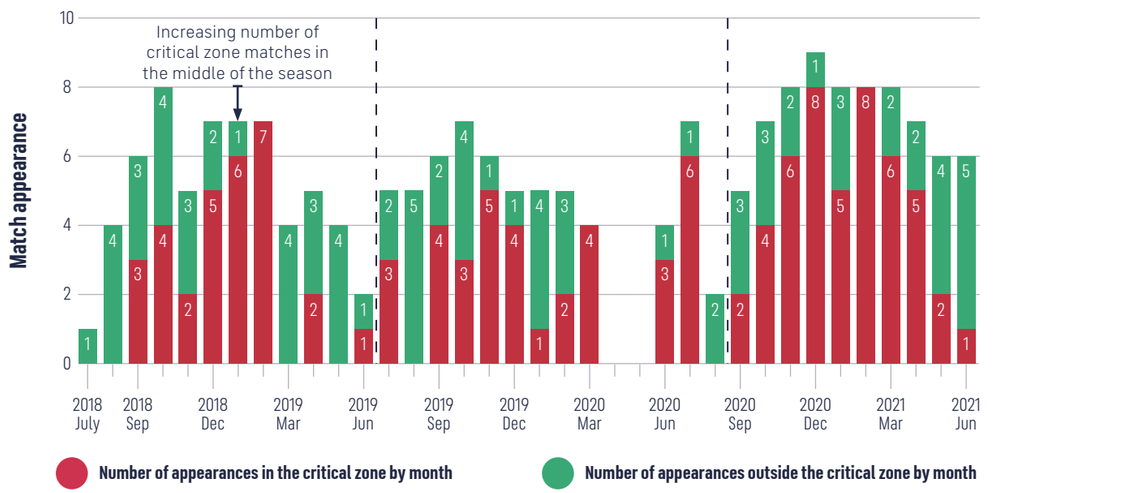
Sporting Clube de Portugal / Manchester United FC, Portugal

- There were several months in Bruno Fernandes' calendar that had both a high match volume and a very high critical zone minutes percentage. In fact, between November 2020 and April 2021, his share of minutes in the critical zone did not once drop below 68% and was close to 100% on multiple occasions. This was a very intense stretch of sustained high workload
- The graph clearly shows that the player experienced periods like this before, when playing for Sporting CP in Portugal, but never in so many months in quick succession. At Manchester United FC Fernandes became one of the most "overused" players in world football

Critical zone minutes % by month (2018-2021)



Number of critical zone appearances by month (2018-2021)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

CAF THULANI HLATSHWAYO

Bidvest Wits FC / Orlando Pirates FC, South Africa

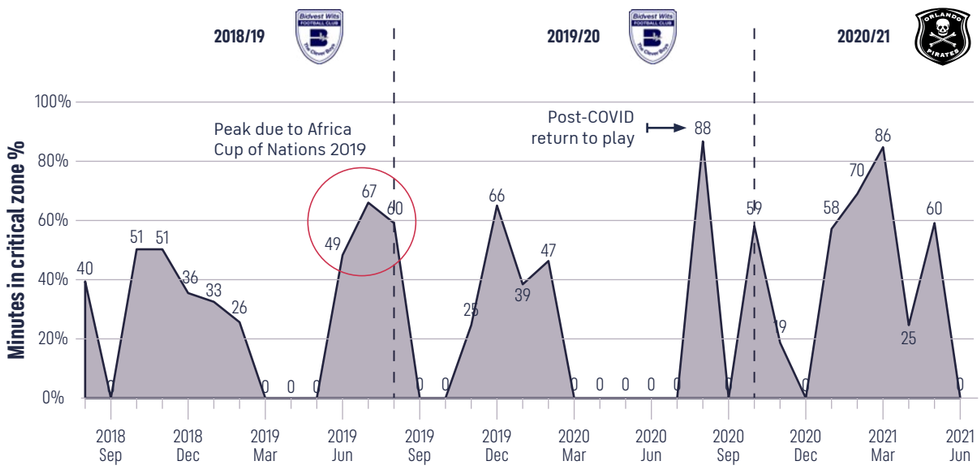
- Due to the COVID-19 suspension, Hlatshwayo had a relatively long break in play, with no appearances between March and August 2020
- However, the congested end to the resumed South African league led to a very high critical zone minutes percentage across eight matches of 88%. Based on the much lower critical zone figures of previous seasons, it can be assumed that the player was not accustomed to such an intense pace of play, exposing him to higher risk of injury. Generally, the busiest periods for Hlatshwayo (and other South African league players) were in the middle of each season with critical zone percentages sometimes exceeding 50% in consecutive months
- Hlatshwayo was also part of the squad for 18 games of the South African national team during the analysed period and played 476 minutes at the Africa Cup of Nations in June-July 2019

UEFA FRENKIE DE JONG

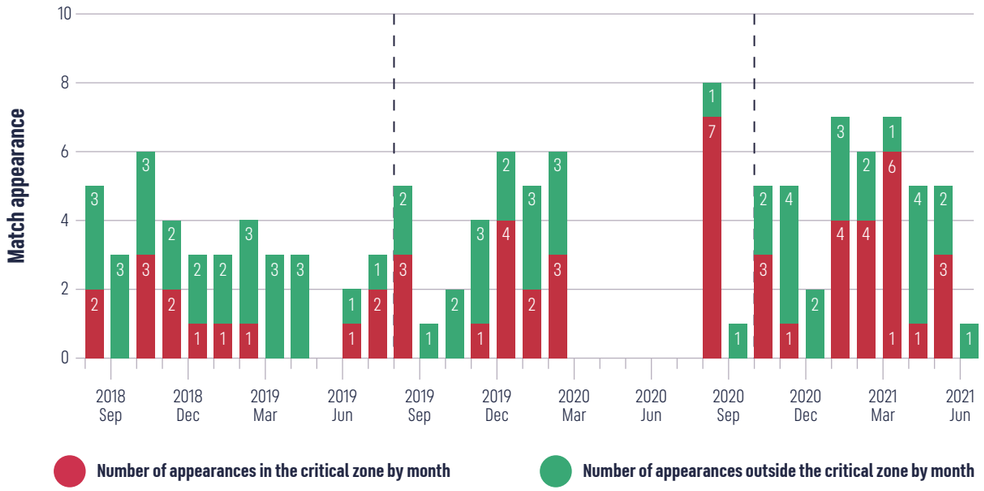
AFC Ajax / FC Barcelona, Netherlands

- Frenkie De Jong established himself as a key player at AFC Ajax at a very young age. At 17, he was already a constant presence in the side during the 2018/19 season. On several occasions his monthly critical zone minutes percentage exceed 60% during the team's run to the UEFA Champions League semi-finals.
- After his transfer to FC Barcelona, he had a relatively less congested 2019/20 which was heavily disrupted by the COVID-19 pandemic. However, De Jong had a very busy 2020/21 campaign after that: more than 80% of all his playing time was in the critical zone, the highest figure of any player in the PWM sample. As the chart shows, his season was full of back-to-back matches throughout with virtually no rest afforded to him. Had FC Barcelona progressed further in the UEFA Champions League, his overutilisation could have been even more extreme.

Critical zone minutes % by month (2018-2021)

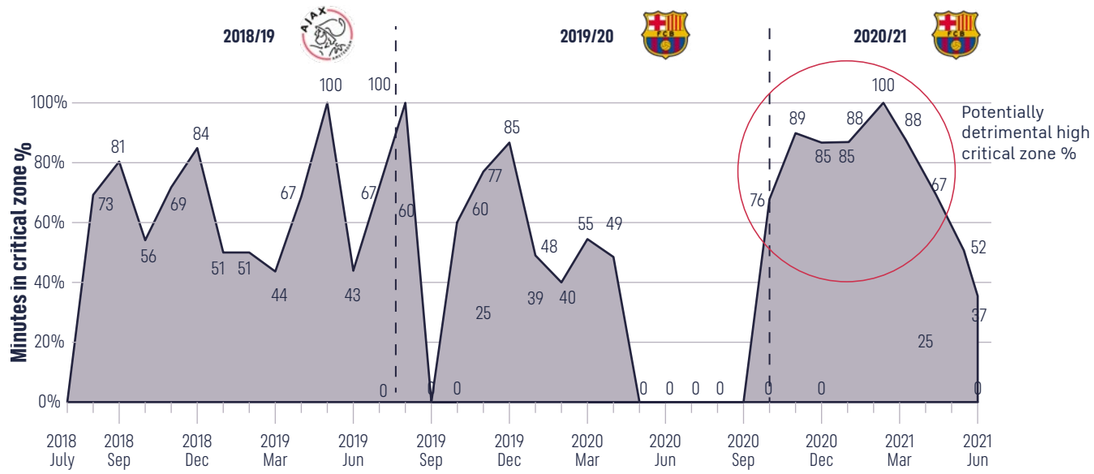


Number of critical zone appearances by month (2018-2021)

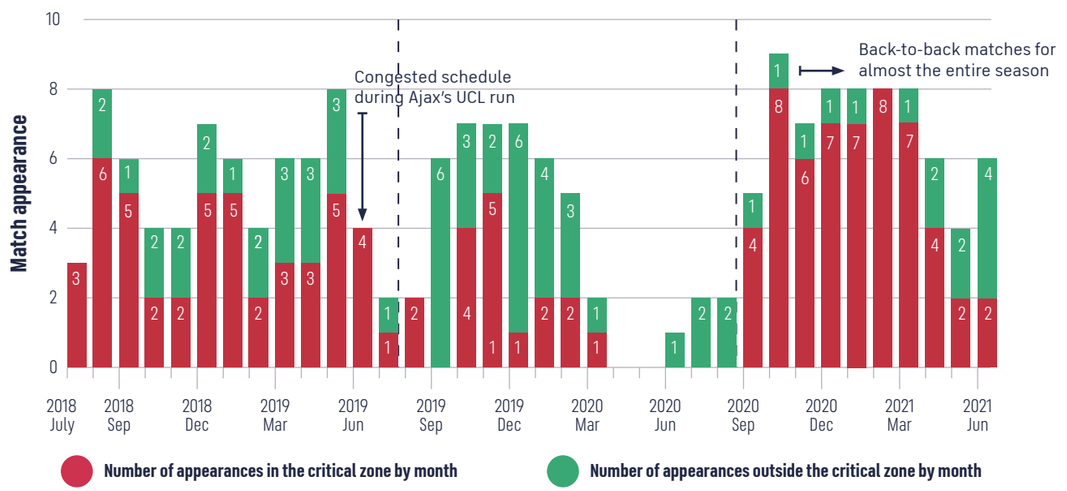


Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

Critical zone minutes % by month (2018-2021)



Number of critical zone appearances by month (2018-2021)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

CONMEBOL FRANCO ARMANI

Club Atlético River Plate, Argentina

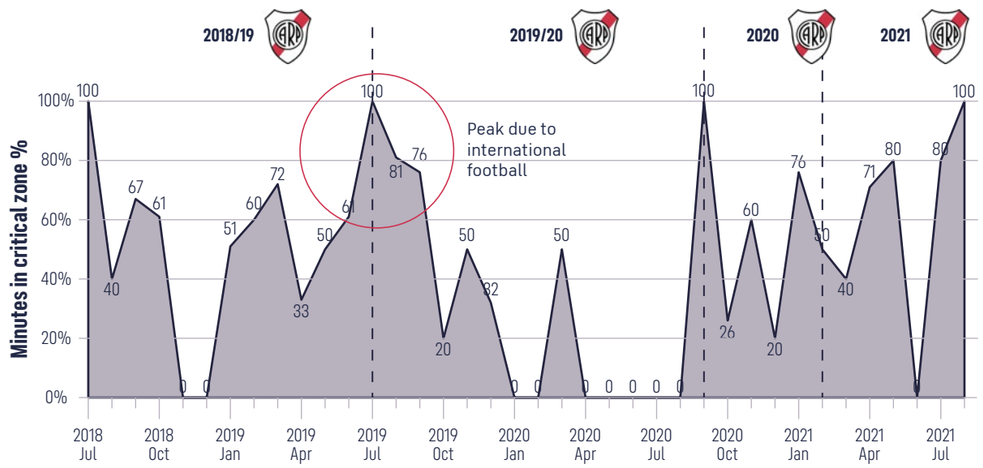
- The match calendar of Franco Armani (a goalkeeper) has been quite uneven over the past three years. Summer 2019 was probably the busiest period with participation for the Argentinian team at the Copa America, several Copa Libertadores matches with River Plate and the start of the new league season resulting in critical zone minutes percentages above 60% in four consecutive months
- A much quieter period then took place due to the COVID-19 suspension in Argentinian football. After a long break without football the domestic competition restarted with the 2020 Copa de la Liga Profesional tournament, which lasted for 11 rounds. Then, after a 4-week break, the 2021 season of the Primera División was launched in February, involving 4-5 back-to-back games in the critical zone for Armani, across several months

CONCACAF JESÚS MURILLO

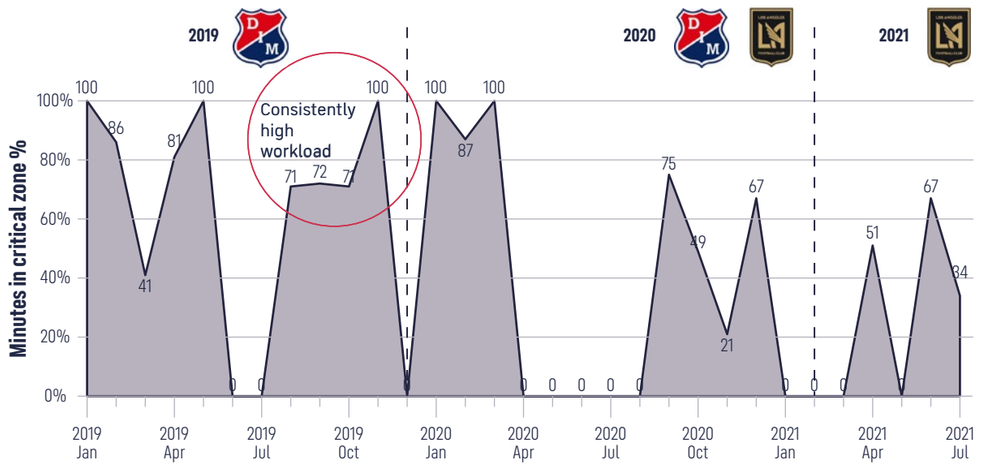
Deportivo Independiente Medellín / Los Angeles FC, Colombia

- Jesús Murillo's calendar is an example of a match schedule that can become congested despite no national team appearances. The Colombian centre back has not played for his country's senior side yet but there have been several periods where he was subjected to back-to-back matches for a sustained period
- Perhaps the most crowded time in his schedule came in early 2020 at the start of the Colombian league when he also had several important Copa Libertadores matches. In February he had no fewer than seven back-to-back matches that were in the critical zone
- In late 2020 he signed for Los Angeles FC in the MLS. Soon after, he had a four-month-long hiatus in his calendar before the 2021 season, demonstrating the other extreme of an uneven match calendar

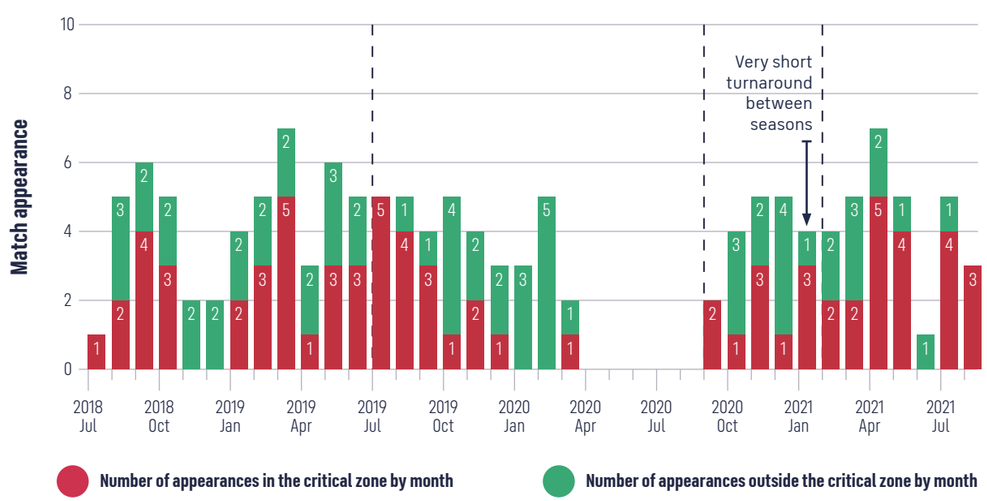
Critical zone minutes % by month (2019-2021)



Critical zone minutes % by month (2019-2021)

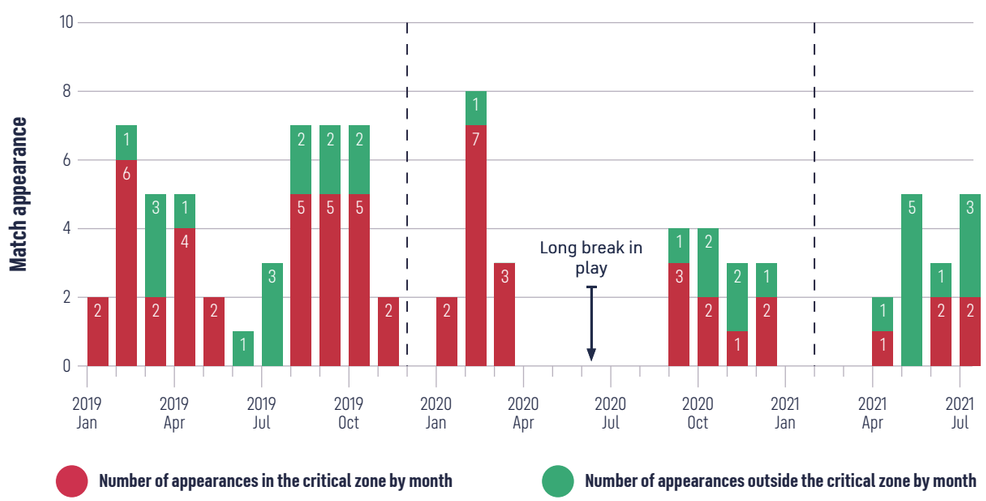


Number of critical zone appearances by month (2018-2021)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

Number of critical zone appearances by month (2018-2021)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

TOP 5 PLAYERS PER CONFEDERATION WITH THE MOST CRITICAL ZONE MINUTES SINCE 2018

The table below lists the players who have had the highest share of their playing time in the critical zone since the 2018/19 season. For every confederation we have selected the five players with the highest overall percentage. A breakdown by season and the number of minutes played are also included to demonstrate an important point: that the same critical zone percentage is more taxing when it is paired with a higher playing time.

- It is clear that top players based in the UEFA region have consistently played more minutes than those in other continents. This is not just due to COVID-19; there are simply more and longer competitions available for many European clubs
- The higher number of competitions leads to a more congested calendar, which is apparent from the high critical zone minutes percentage of the five selected players from the UEFA confederation. Not even the top ranked players from other confederations (AFC, CAF, CONMEBOL or CONCACAF) could register such high percentages (65%+) over the last three seasons. However, that doesn't mean their results are much more encouraging.
- Another observation is that 17 of the 25 players listed are either goalkeepers or defenders. These positions generally experience a lower degree of rotation and are also less likely to be substituted during the game than their more attacking team-mates

Top 5 for every region by combined critical zone minutes % across the last three seasons

Confederation	Name	Position	Club	League	Total minutes played				Critical zone minutes share %			
					2018/19	2019/20	2020/21	Total	2018/19	2019/20	2020/21	Total
UEFA	Daley Blind	FB	AFC Ajax	Eredivisie	6 302	3 730	4 314	14,346	76%	75%	72%	73,9%
	Rúben Dias	CB	Manchester City FC	Premier League	6 366	5 664	6 331	18,361	78%	65%	76%	73,3%
	Frenkie de Jong	CM	FC Barcelona	La Liga	5 619	4 186	6 250	16,055	65%	52%	80%	67,2%
	Samir Handanovic	GK	FC Internazionale Milano	Serie A	5 253	5 083	4 537	14,873	59%	70%	73%	66,8%
	Matthijs de Ligt	CB	Juventus FC	Serie A	6 329	4 443	3 823	14,595	70%	58%	71%	66,7%
CONMEBOL	Germán Cano	FW	CR Vasco da Gama	Brazil Serie B	4 503	4 765	2 810	12,078	71%	61%	64%	61,9%
	Franco Armani	GK	River Plate	Argentina Superliga	5 173	3 271	4 832	13,276	54%	44%	60%	53,9%
	Mauricio Isla	FB	CR Flamengo	Brazil Serie A	4 812	5 699	2 289	13,132	42%	50%	63%	49,7%
	Luis Torrico	CB	Club Atlético Nacional Potosi	Bolivian Primera División	3 791	1 038	1 273	6,102	60%	36%	23%	48,3%
	Rosmel Villanueva	CB	Caracas FC	Venezualan Primera División	3 802	1 824	196	5,822	41%	51%	49%	44,4%
CONCACAF	Jesús Murillo	CB	Los Angeles FC	MLS	4 614	2 543	1 414	8,571	69%	74%	31%	60,2%
	Johan Venegas	FW	Deportivo Saprissa	Costa Rican Primera División	3 600	4 415	3 969	11,984	52%	67%	51%	56,8%
	Brad Guzan	GK	Atlanta United FC	MLS	4 763	2 630	1 521	8,914	61%	59%	48%	51,0%
	Jesús Gallardo	FB	CF Monterrey	Liga MX	5 443	4 034	3 810	13,287	52%	60%	38%	50,8%
	Alexander López	AM	LD Alajuelense	Costa Rican Primera División	3 999	4 219	3 943	12,161	46%	46%	56%	49,8%
AFC	Yasir Al-Shahrani	FB	Al Hilal SFC	Saudi League	3 616	4 975	4 277	12,868	36%	64%	55%	52,6%
	Mohammed Al-Burayk	FB	Al Hilal SFC	Saudi League	3 919	3 211	3 418	10,548	46%	63%	44%	50,0%
	Tomoaki Makino	CB	Urawa Red Diamonds	J1 League	4 878	2 400	2 735	10,013	50%	53%	64%	48,9%
	Akram Afif	FW	Al Sadd SC	Qatar Stars League	4 400	3 588	2 477	10,465	55%	38%	47%	47,4%
	Baghdad Bounedjah	FW	Al Sadd SC	Qatar Stars League	3 958	3 479	3 573	11,010	42%	32%	58%	44,1%
CAF	Tarek Hamed	DM	Zamalek SC	Egypt Premier League	4 643	4 059	3 060	12,441	48%	53%	64%	54,3%
	Ali Maâloul	FB	Al Ahly SC	Egypt Premier League	4 235	3 987	2 230	10,452	45%	51%	67%	51,7%
	Mahmoud Alaa	CB	Zamalek SC	Egypt Premier League	3 965	4 446	1 927	10,338	44%	55%	55%	50,6%
	Thulani Hlatshwayo	CB	Orlando Pirates	South African Premier Division	3 690	3 683	3 893	11,266	34%	52%	54%	46,7%
	Khama Billiat	FW	Kaizer Chiefs	South African Premier Division	3 933	2 404	1 888	8,225	38%	45%	61%	46,3%

Notes: the figures for the 2020/21 season are incomplete for players whose league was still ongoing at the time of our publication deadline (1st September 2021).

Position abbreviations: GK – goalkeeper; FB – full-back; CB – centre-back; DM – defensive midfielder; CM – central midfielder; AM – attacking midfielder; FW – forward.

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

04

CASE STUDY

SAFEGUARDS TO PREVENT EXCESSIVE MULTIPLE MATCH EXPOSURE

Modelling the effects of regulatory limitations in relation to back-to-back matches on player availability and overall player workload.

04 CASE STUDY

SAFEGUARDS TO PREVENT EXCESSIVE MULTIPLE MATCH EXPOSURE

As highlighted earlier, the current competition landscape does not provide enough rest & recovery opportunities for many players. This is especially true for players competing in multiple competitions, meaning several matches in the critical zone and resulting in fixture congestion.

To best demonstrate this phenomenon we created a "sandbox" environment, where a "virtual calendar" was built for a few selected players from top European clubs. It estimated how many matches they would have played if their team had advanced to the final of every competition, and if they were on the pitch for every minute. The "virtual calendar" displays the expected distribution of matches throughout the 2021/22 season. This is the baseline benchmark that we will use to model the different scenarios.

To capture the effect of a safeguard to match pile-ups in the critical zone, we created three scenarios to model the potential impact of various workload-decreasing regulations. These scenarios differ in the number of consecutive games allowed in the critical zone.

What would happen if the player was allowed to play only three, four or five consecutive matches in the critical zone? Would compulsory breaks in specific scenarios significantly reduce the overall workload?

Would it be possible to prevent player burn-out, while still making sure that the best players are available when their teams need them the most?

DESCRIPTION OF SCENARIOS

Baseline

The player appears in every match (competitive or friendly) of his club and national team throughout the season.

Scenario A

The player is allowed to play a maximum of five (5) consecutive matches in the critical zone. If the next one would also be in the critical zone, then he has to miss that match.

Scenario B

The player is allowed to play a maximum of four (4) consecutive matches in the critical zone. If the next one would also be in the critical zone, then he has to miss that match.

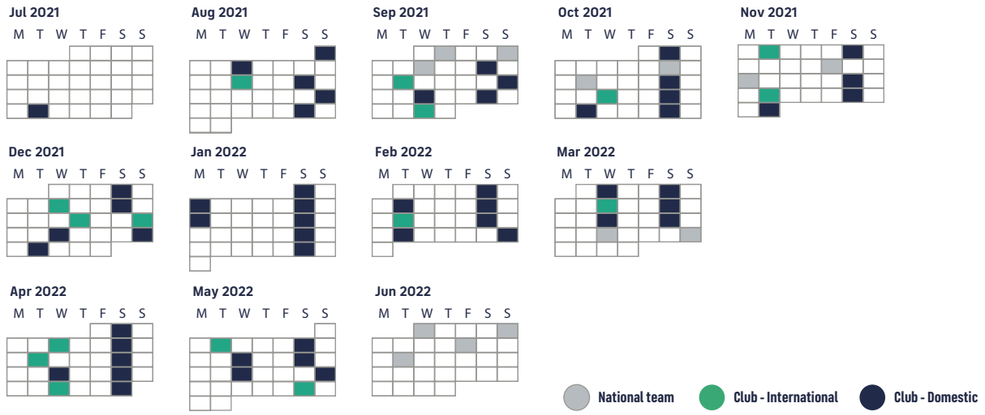
Scenario C

The player is allowed to play a maximum of three (3) consecutive matches in the critical zone. If the next one would also be in the critical zone, then he has to miss that match. This is the most strict scenario.

PLAYER #1: EUROPEAN PLAYER FROM PREMIER LEAGUE

The first subject is a typical top player in the Premier League, who is expected to take part in no fewer than five club competitions in 2021/22, in addition to several friendlies and national team appearances. His theoretical, "virtual" calendar would look like this:

Baseline scenario – All matches throughout the 2021/22 season



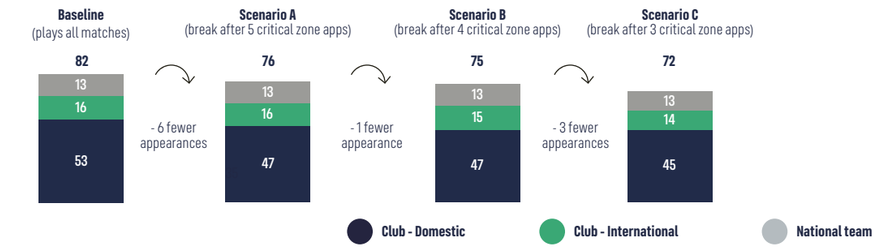
By applying the safeguards after a set of matches in the critical zone, the player's workload would be reduced significantly: depending on the scenario, he could play 6, 7 or 10 fewer matches in the 2021/22 season, freeing up valuable rest & recovery time that might keep him at close to his very best performance level throughout.

When assessing the differences between the scenarios, it is notable that the breakdown of appearances by type would also differ. In Scenario A and B the player would sit out similar number of games, in Scenario C the player would miss mainly domestic cup games.

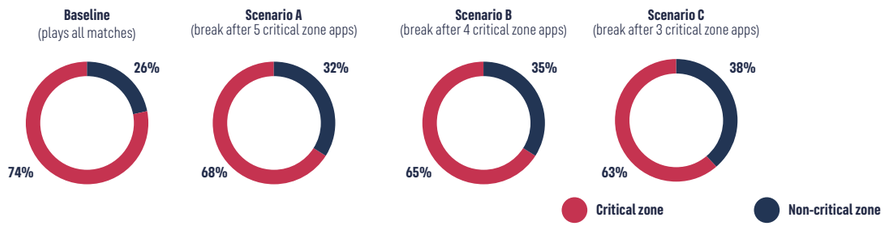
These would mostly occur in the "secondary" cup; the argument for scrapping the competition altogether comes up time and time again. These secondary cups could also be reimagined as Under-23 competitions

Finally, it is clear that the player's appearances in the critical zone would also drop substantially under the three safeguard scenarios. Starting from the extremely high 74% of the baseline, a reduction of 6%, 9% and 11% could be achieved in Scenarios A, B and C, respectively.

How many appearances would he have in the season?



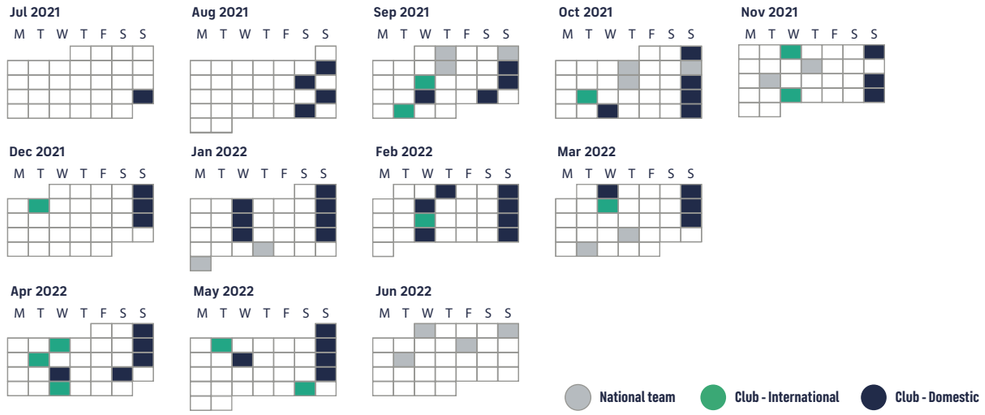
What share (%) of his appearances would be in the critical zone?



PLAYER #2: SOUTH AMERICAN PLAYER FROM LA LIGA

The second subject is a player in a "big five" league, but his national team is from CONMEBOL. Therefore, besides the extreme match workload, the player will also experience a lot of travel in order to fulfil his national team commitments.

Baseline scenario – All matches throughout the 2021/22 season

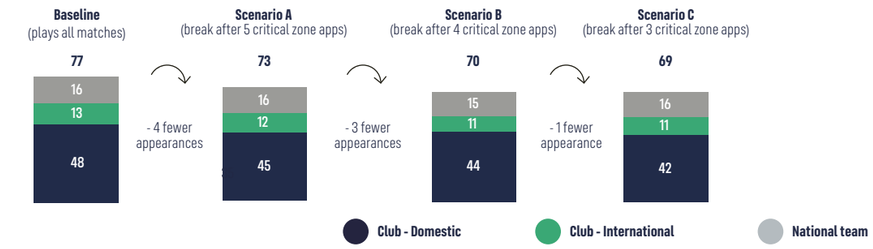


By only allowing a maximum of 3, 4 or 5 consecutive matches in the critical zone, the number of appearances could be reduced by 4, 7 or 8 matches. This is ultimately a maximum of 10% decrease of his overall match load.

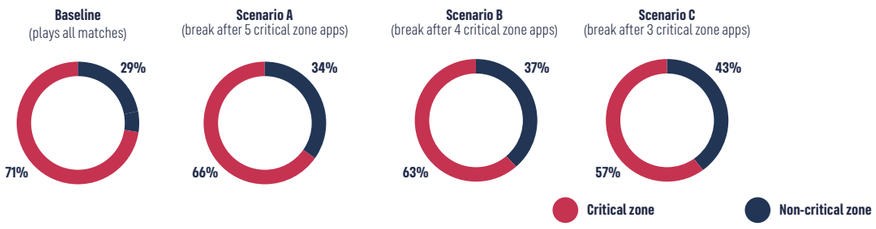
While in Scenario C, the player would experience reduced workload in domestic competitions, in Scenario B he would miss games that necessitate international travel (national team and club international games) at different points during the season. As such, the already significant travel load could be eased.

When it comes to the critical zone, the share of such appearances would drop by 5% in Scenario A, by 8% in Scenario B and by 14% in Scenario C. This would be a welcome development leading to a more balanced distribution of congested periods throughout the season.

How many appearances would he have in the season?



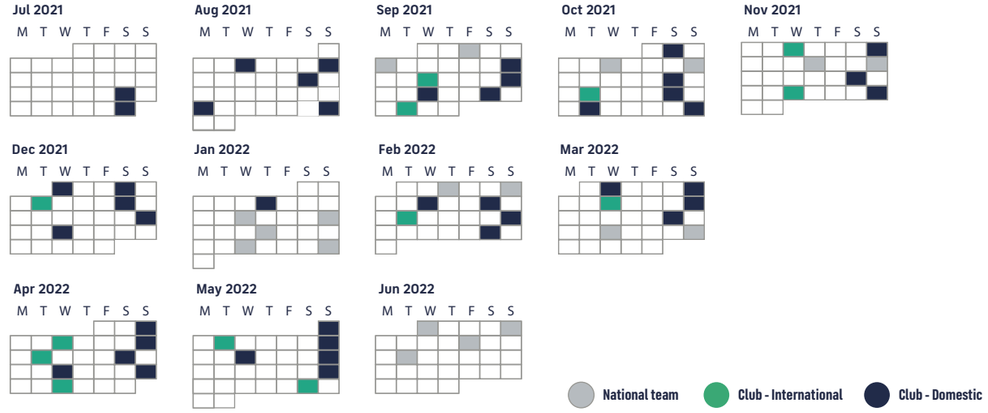
What share (%) of his appearances would be in the critical zone?



PLAYER #3: AFRICAN PLAYER FROM SERIE A

The third selected player also plays in one of the European top leagues, but his national team is from CAF. The player also qualified for the Champions League after competing in the Europa League last season. This player also has a major continental tournament mid-season (the 2021 Africa Cup of Nations moved back to January as a consequence of the COVID-19 pandemic). Club matches during the 2021 AFCON were not considered in this analysis.

Baseline scenario – All matches throughout the 2021/22 season



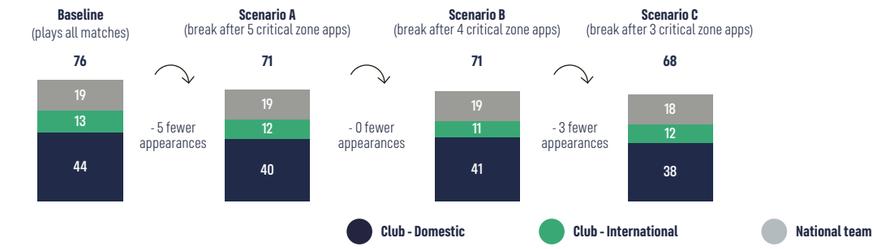
As a consequence of playing a major tournament (the 2021 Africa Cup of Nations) in the middle of the season, the player would already miss a substantial number of club matches in the 2021/22 season even in the baseline scenario.

In terms of appearances by competition type, the player would mainly miss domestic club games in Scenario A. On the other hand, in Scenario B international travel would place less burden on the player as he would miss two international games compared to the baseline.

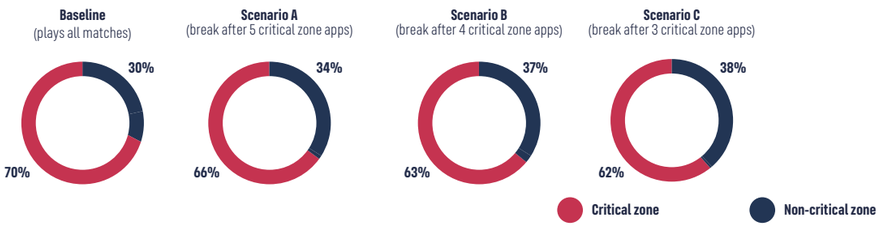
The number of appearances would be reduced by 8 in Scenario C; this is when the player would play the least amount of domestic club matches across all safeguard scenarios.

The percentage of critical zone appearances would be reduced by 4%, 7% or 8% in Scenarios A, B and C, respectively. It must be noted though that these are still relatively high percentages compared to other players and the player would still be "challenged" from a workload perspective.

How many appearances would he have in the season?



What share (%) of his appearances would be in the critical zone?



05

PLAYER IMPACT
REST & RECOVERY

In order to prevent burnout and to be able to perform at their peak level, players need time to recharge and recuperate. Even though rest between matches is crucial, the current trends point to a more congested schedule for most players.

05 PLAYER IMPACT

REST & RECOVERY

The current trend of the international football calendar is that it is becoming more and more congested. The current competition landscape does not provide enough rest & recovery opportunities for many players.

An appropriate way to assess the impact of a compressed schedule on player workload is to analyse the evolution of the rest time between matches afforded to players. With elite footballers involved in several competitions simultaneously and the next appearance always just a few days away, it is often difficult to find enough time for recuperation. This also makes the job of the coaching staff difficult as there is hardly enough time to properly prepare for the upcoming match during the limited window that is afforded to them to organise (tactical) training sessions.

FIFPRO believes that everyone should be allowed **at least five days between appearances** to protect the players' health, limit injury risk and prevent burnout. While over the course of an entire season we might see that some players actually meet these criteria on average, this masks the larger issue. The reality is that congested periods of back-to-back matches with virtually no off-time between them are becoming more and more widespread. For many, the bulk of the season is characterised by the constant rhythm of mid-week and weekend matches, leading to two or three appearances within seven-day periods. This puts the players at a much higher risk and such "overload" might have damaging long-term effects.

There are even more extreme cases: in May 2021, Manchester United FC had to play four matches within seven days due to postponements.

In this chapter we are going to analyse the topic of rest & recovery times of different player profiles, shedding some light on one of the key workload issues of today.

**FIFPRO and medical science recommends at least five days of rest and recovery time between two appearances to minimise injury risk and allow for a full recovery.
In reality how often is this recommendation met? According to our research based on the PWM platform's dataset, very rarely. In addition, there are major differences between players of different profiles in this regard.**

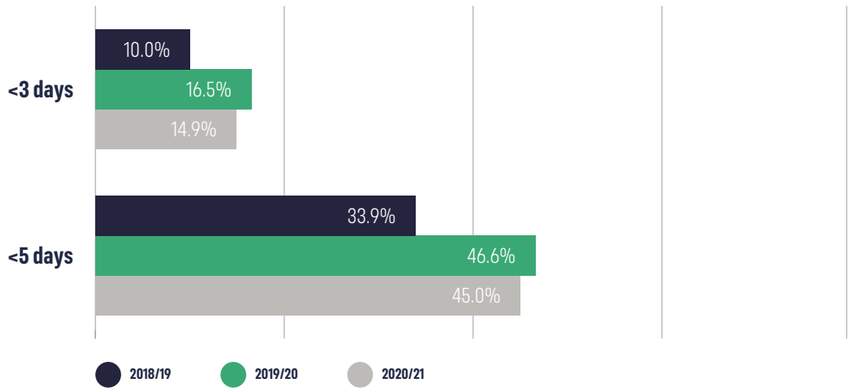
ANALYSIS BY PLAYER PROFILE

WHAT TYPE OF PLAYERS HAVE HAD THE LEAST REST & RECOVERY TIME?

Profile	% of appearances with less than 3 or 5 days of prior rest by an average player in the playing group (profile)	Key findings

DOMESTIC PLAYING GROUP
(PLAYERS MOSTLY EXPOSED TO DOMESTIC WORKLOAD):

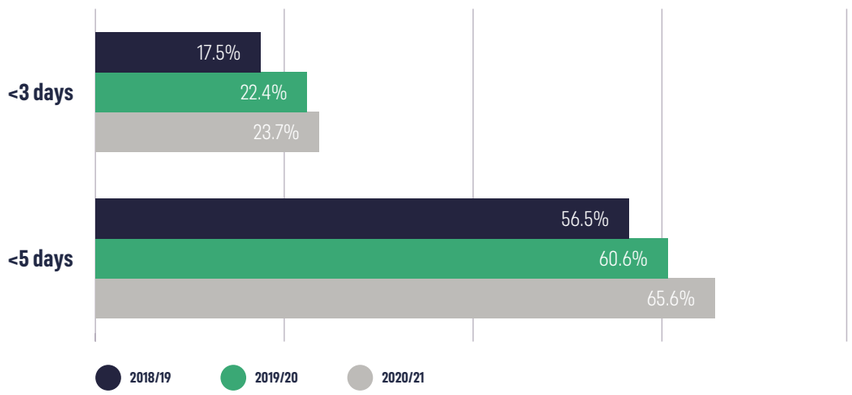
players whose match schedule is mostly made up of domestic games; those in this category played a maximum of four national team or international club competition matches within the same season combined.



- The results show that for players mostly featuring in domestic club competitions, the 2019/20 was the most challenging. For an average player in this group, they did not have the recommended five days of rest before almost half of all their appearances (46.6%).
- This is the direct result of the COVID suspension and the following congested scheduling that affected even the organisation of domestic leagues and cups everywhere.
- The next season saw a slight decrease in this indicator, but it still has not dropped back to its pre-pandemic level (see 2018/19), pointing to the longer impacts of COVID and might hint at other factors at play.

INTERNATIONAL PLAYING GROUP
(PLAYERS FREQUENTLY PLAYING INTERNATIONAL COMPETITIONS):

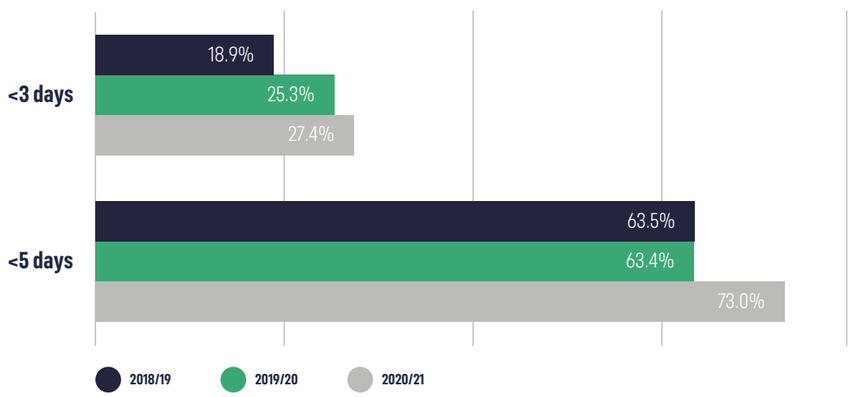
players who in addition to their domestic competition duties played at least fifteen national team or international club matches in the same season. These players are mostly key members of their respective clubs and/or are regulars in their country's national team setup.



- It is apparent that in every analysed season, international players have had a much higher share of their matches not meeting the 5-day rest recommendation than domestic-focus players. In most years the difference was at least 15-20 percentage points.
- There is an increasing trend year-on-year that cannot be entirely explained by the COVID impact on competitions. The return of international matches and various national team tournaments (Euros, Copa America, Gold Cup) taking place in the summer of 2021 led to a much higher share than in previous seasons.

HIGHEST WORKLOAD PLAYING GROUP
(PLAYERS WITH THE MOST MINUTES PLAYED)

the twenty players in the PWM platform with the most minutes played across all competitions in a season. Players with this profile generally make it far in international competitions (e.g. Kylian Mbappé), play a lot of national team games (e.g. Lionel Messi) and are ever-present in their teams (e.g. Harry Maguire). They are international players at the very top of the professional game.



- Like those in the international player groups, players in this group with the most minutes played also experienced a growing match workload, leading to shorter rest & recovery times between appearances
- While the impact of national team tournaments on the 2020/21 figures is undisputed, it still points to a disturbing reality. Top players in the last full season played more than a quarter of their games with fewer than 3 days of rest beforehand
- As this is only a group average, there were players with an even more extreme figure. Gianluigi Donnarumma, Antoine Griezmann and Bruno Fernandes have all played over 33% of their matches with less than 3 days between that match and the previous one. In the context of their long seasons this equates to 24-25 matches overall

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

CASE STUDY – PEDRI AND CO: THE OVERUSE OF THE SAME PLAYING GROUPS

UNDERLINING THE NEED FOR MANDATORY PLAYER SAFEGUARDS AND ENFORCEMENT MECHANISMS

In summer 2021, the match workload of FC Barcelona's and Spain's Pedri reached extreme levels that it caught the attention of international media. The talented midfielder played 78 matches across 12 months with virtually no prolonged rest in-between. During this time, he was on the pitch for 5,636 minutes and, due to the congested schedule, 67.9% of them were played in the critical zone.

A key reason behind this long run of fixtures is that Pedri was selected for the Spanish squad for two national team tournaments in the summer of 2021: the UEFA Euro 2020 and the Tokyo Olympic Games. Some of his teammates also played in both (Dani Olmo, Pau Torres, Eric García, Unai Simón, Mike Oyarzabal), but Pedri had the highest match workload in the season overall.

In the graph we can see the rest & recovery time of Pedri before each of his appearances: this is calculated as the time between the final whistle of the previous appearance and the kick-off time of the match in question. For 64 out of 78 appearances he had fewer than five days of rest beforehand.

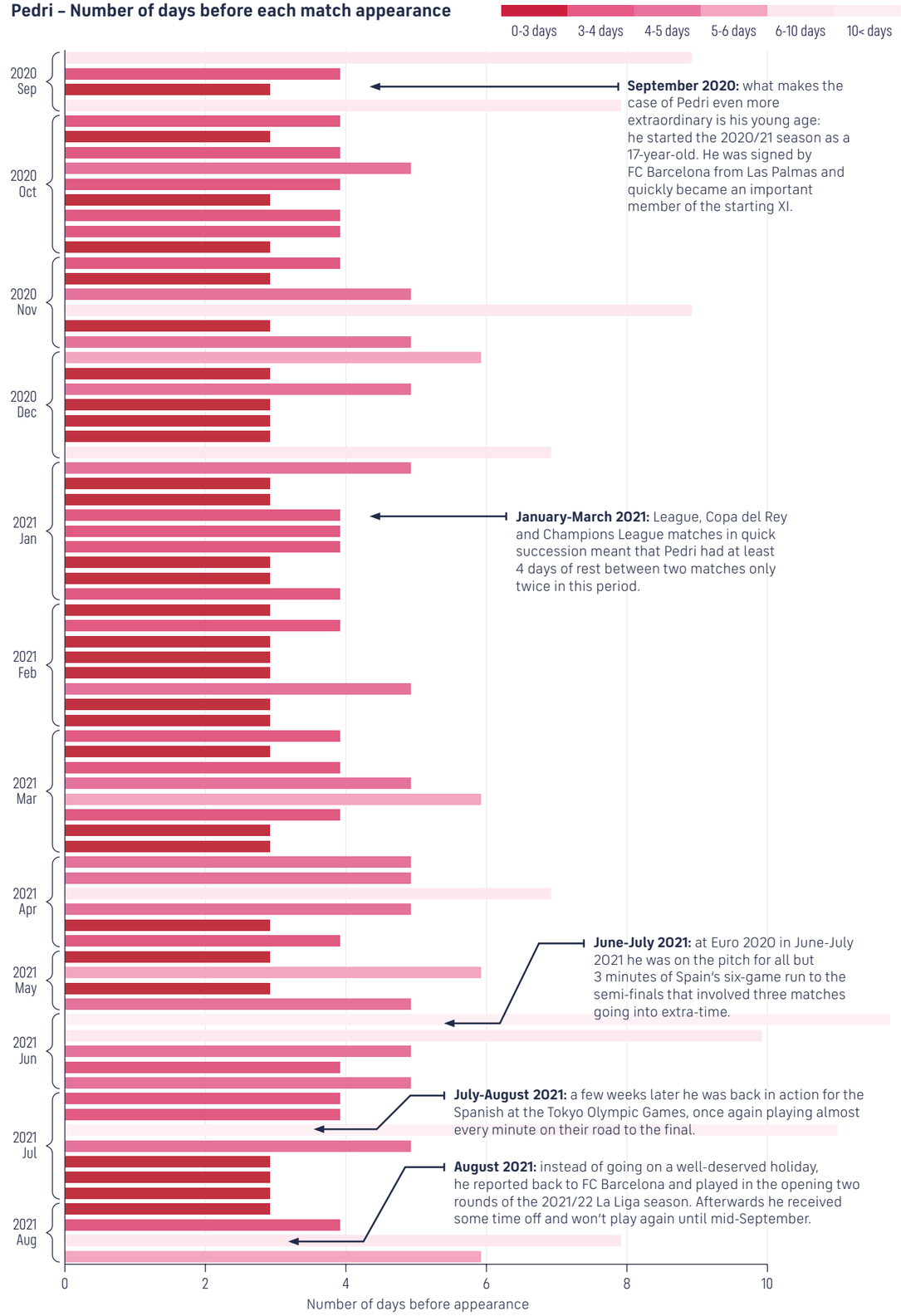
The same elite players are used in all major competitions, leading to excessive workload

Pedri played 78 matches between September 2020 and August 2021 with no break

Distribution of match appearances between club and national team competitions during the analysed period

27% 73%

Pedri – Number of days before each match appearance



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

06

PLAYER IMPACT
SEASON BREAKS

In addition to the rest time between games, off-season and in-season breaks are also crucial in preserving the mental and physical wellbeing of footballers. Currently this precious time away from football is in practice not provided in the calendar. Season-breaks need therefore to be better protected through regulations and enforcement mechanisms to provide the players with the necessary recovery periods.

06 PLAYER IMPACT

SEASON BREAKS

As the competition calendar is becoming more congested, the start and end dates of seasons are also becoming more volatile. Finding enough time to organise every match of a competition often comes at the expense of the players' break periods.

Off-season and in-season breaks are the periods that should be spent entirely outside the club or national team environments and players should be allowed to completely wind down, without any professional commitments.

The importance of season breaks makes it all the more distressing to see more and more players not afforded a decent break away from football. FIFPRO recommends that every player should have at least 28 days for off-season and 14 days for an in-season break. Across all players in the PWM platform we have found that over the last three seasons 45% of off-season breaks were too short, whereas only 70% of in-season breaks met the recommended 14-day length.

This indicates that there is a large group of players who continue playing for several seasons without sufficient rest.

COMPETITIONS WITH THE SHORTEST BREAKS

English Premier League

The English Premier League is often considered to be one of the most gruelling leagues in the world, due to fixture congestion during the year. All teams play 38 games, in addition to participating in two domestic cup series and the continent's other top competitions. As a result, the league doesn't schedule an in-season break, commonly seen in the other "big five" leagues. The December period between Christmas and New Year's Eve is especially taxing on players bodies as they often have to play games every three days. In addition, as Premier League players are of the highest standard in the world many of them also participate during international windows. The effect of COVID-19 introduced an emergency play stoppage in March 2020, delaying the end of the 2019/20 season. This resulted in a shorter off-season in the 2020/21 season.

To combat the physical wear and tear from the calendar, league organisers introduced a version of a winter break in the 2019/20 season by splitting one round of fixtures over two weekends, thus giving every team one weekend off. However, this had to be scrapped for the 2020/21 season due to the fixture congestion caused by the pandemic.

The EPL is the only top European league that has not introduced the new rule that allows up to five players per game to be substituted.

K-League 1

In South Korea, the K-League 1 is scheduled on a calendar year basis and generally runs from the March to December in any given year. The interesting aspect of the league is that they give teams a relatively long off-season break that lasts three to four months. However, once the season begins there is no break scheduled and teams have to play week on week for 38 game weeks. The COVID-19 crisis affected the league in-between seasons and as such the league could simply alter the starting date of the competition and delay it by two months. However, the number of games had to be cut, with the 2020 season only comprising 27 game weeks. Recent labour disputes also further highlighted the lack of independent player consultation and the recognition for necessary player safeguards.

Egyptian Premier League

The Egyptian Premier League is yet another league with no in-season break, packing the December period full of games. The off-season is usually held from June to August, a standard for the Fall-Spring seasons. The structure of the league is similar to the English Premier League, but due to fewer domestic cup competitions and fewer teams participating, the season only has 34 game weeks, meaning a less grueling schedule for the players. COVID-19 resulted in a long in-season break during the 2019/20 season, which pushed the final games back into October, which is when the new season would have usually kicked off. As a result, the following off-season was much shorter than usual. To compensate and to alleviate the effects of the tight schedule, the league gave a in-season break in July.

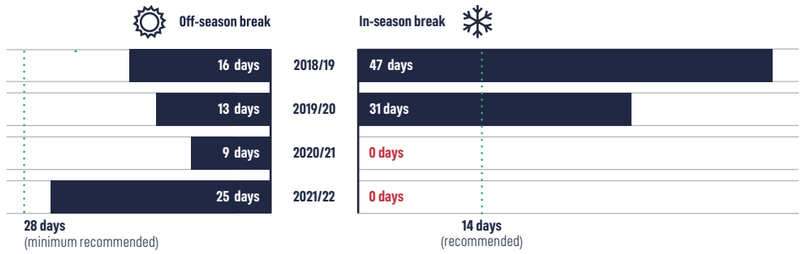
CASE STUDY – INDIVIDUAL PLAYER SEASON BREAK STORIES

TOMÁŠ SOUČEK

SK Slavia Praha / West Ham United FC

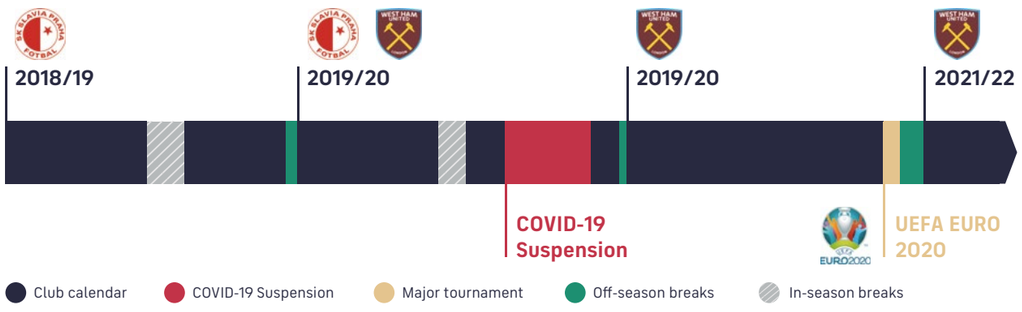
Very short off-season and in-season breaks every year

SEASON BREAK LENGTH (2018-2021)



- As one of the key players at both club and national team level, Tomáš Souček was regularly involved in international competitions that often limited how much time he was afforded away from football.
- Even at Slavia Praha, his off-season break did not meet the recommended minimum length (28 days). Before the 2020/21 season, now as a West Ham United player, Souček had an even shorter break due to the delayed end to the previous season.
- After a long and congested season, he took part at the UEFA European Championship in June-July 2021 with the Czech national team.

MATCH CALENDAR (2018 –2021)



11.8%

of all days spent away from football between June 2018 and now (off-season and in-season breaks)

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

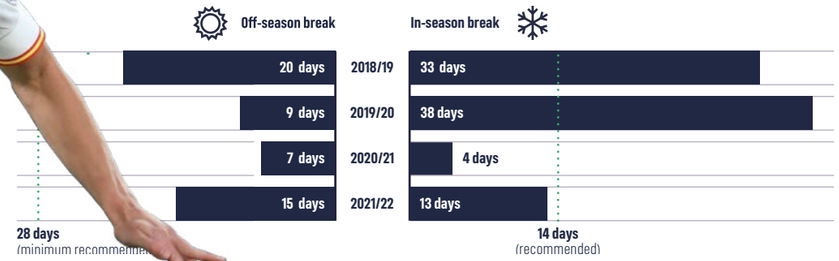
CASE STUDY – INDIVIDUAL PLAYER SEASON BREAK STORIES

DANI OLMO

GNK Dinamo Zagreb / RB Leipzig

Season breaks met the recommended minimum length only once since 2018

SEASON BREAK LENGTH (2018-2021)



- The most notable feature of Dani Olmo' match calendar of recent years is the fact that he was an important player in two national team tournaments in the summer of 2021.
- First, he advanced to the semi-finals of UEFA Euro 2020 with the Spanish national team in June-July, then almost immediately after that he joined up with the Under-23 Olympic team and travelled to Tokyo. There he once again had a long competition as Spain made it all the way to the final.
- Ultimately, he was afforded only 15 days of off-season break before the 2021/22 season. Unfortunately, this is a not a new experience as Olmo had similarly short off-seasons in previous years, as well.
- In terms of breaks during seasons, the player had sufficiently long times off while he was playing in Croatia, but the duration of his in-season breaks was greatly reduced after his transfer to RB Leipzig in Germany.

MATCH CALENDAR (2018 –2021)

8.8%

of all days spent away from football between June 2018 and now (off-season and in-season breaks)

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

TOP 5 PLAYERS PER CONFEDERATION WITH THE SHORTEST TOTAL OFF-SEASON BREAK SINCE 2018

The table shows the off-season breaks by season and minutes played. This context is important since increased minutes are often a result of participation in international games or tournaments, that inevitably cuts down the rest time between seasons.

- It is clear from the figures that players in the European confederation (UEFA) have the least amount of time between seasons. On average, the five players selected had a combined 33 days for off-seasons over the past three years in total
- COVID-19 had a dual impact on the length of the season breaks. Most notably, in Europe the break between seasons was shortened due to the delayed end of the 2019/20 season. At the same time, in other leagues where the season was curtailed, such as the Liga MX in Mexico, there was a long break in play before the start of the new season. For this reason, the five-player sample from the CONCACAF had the longest off-season break in our analysis
- The shortest off-season of the entire sample was recorded by the Qatar Stars League, where 2020/21 began a mere three days after the previous season's conclusion
- Players representing their national teams also received much shorter vacations: for them, the summer off-seasons were often filled with international duty, be it qualifiers, friendlies or entire tournaments in another country

Top 5 players per confederation with the shortest total off-season break since 2018

Confederation	Name	Position	Club	League	Total minutes played				Off-season break (days)			
					2018/19	2019/20	2020/21	Total	2018/19	2019/20	2020/21	Total
UEFA	Artem Dzyuba	FW	Zenit St. Petersburg	Russian Premier Liga	4 336	4 214	4 042	12 592	7	7	6	20
	Rúben Dias	CB	Manchester City FC	English Premier League	6 366	5 664	6 331	18 361	14	10	9	33
	Dani Olmo	AM	RB Leipzig	German Bundesliga	4 421	3 176	5 082	12 679	20	9	7	36
	Milan Skriniar	CB	FC Internazionale Milano	Italian Serie A	5 777	4 572	4 826	15 175	19	12	7	38
	Tomas Soucek	DM	West Ham United FC	English Premier League	5 691	4 250	5 353	15 294	16	13	9	38
CONMEBOL	Óscar Cardozo	FW	Club Libertad	Paraguayan Primera División	3 594	2 469	1 998	8 061	26	21	24	71
	Luis Torrico	CB	Club Atlético Nacional Potosi	Bolivian Primera División	3 791	1 038	1 273	6 102	10	18	52	80
	Germán Cano	FW	CR Vasco da Gama	Brazilian Serie B	4 503	4 765	2 810	12 078	20	52	13	85
	Bruno Piñatares	DM	Barcelona Sporting Club	Ecuadorian Serie A	2 942	3 239	1 886	8 067	58	18	11	87
	Aldo Corzo	FB	Club Universitario de Deportes	Peruvian Primera División	2 510	2 506	2 054	7 070	48	29	62	139
CONCACAF	Alexander López	AM	LD Alajuelense	Costa Rican Primera División	3 999	4 219	3 943	12 161	28	18	26	72
	Johan Venegas	FW	LD Alajuelense	Costa Rican Primera División	3 600	4 415	3 969	11 984	18	56	18	92
	Jesús Gallardo	FB	CF Monterrey	Liga MX	5 443	4 034	3 810	13 287	7	6	105	118
	Hugo Ayala	CB	Tigres UANL	Liga MX	4 427	2 834	1 905	9 166	7	28	91	126
	Stefan Medina	FB	CF Monterrey	Liga MX	3 952	3 978	2 732	10 662	38	8	105	151
AFC	Baghdad Bounedjah	FW	Al Sadd SC	Qatar Stars League	3 958	3 479	3 573	11 010	38	11	3	52
	Yasir Al-Shahrani	FB	Al Hilal SFC	Saudi League	3 616	4 975	4 277	12 868	23	44	17	84
	Mohammed Al-Burayk	FB	Al Hilal SFC	Saudi League	3 919	3 211	3 418	10 548	23	44	17	84
	Sho Sasaki	CB	Sanfrecce Hiroshima	J1 League	3 974	3 185	1 686	8 845	18	50	49	117
	Tomoaki Makino	CB	Urawa Red Diamonds	J1 League	4 878	2 400	2 735	10 013	18	50	49	117
CAF	Ali Maâloul	FB	Al Ahly SC	Egyptian Premier League	4 235	3 987	2 230	10 452	9	19	6	34
	Ayman Ashraf	CB	Al Ahly SC	Egyptian Premier League	4 849	3 414	2 889	11 152	7	36	6	49
	Tarek Hamed	DM	Zamalek SC	Egyptian Premier League	4 643	4 059	3 060	11 762	33	46	9	88
	Thamsanqa Mkhize	FB	Cape Town City FC	South African Premier Division	3 723	2 519	2 129	8 371	63	17	23	103
	Thulani Hlatshwayo	CB	Orlando Pirates	South African Premier Division	3 690	3 683	3 893	11 266	63	17	23	103

Position abbreviations: GK – goalkeeper; FB – full-back; CB – centre-back; DM – defensive midfielder; CM – central midfielder; AM – attacking midfielder; FW – forward.

Impact of Overlapping Competition Cycles and Qualification Rounds

For many players overlapping competition cycles are a key concern for shortened off- and in-season breaks. Especially in smaller and medium sized markets players are often affected in years with national team competitions in the summer followed by an early start of qualifications rounds for the next international club competitions season (e.g. qualification for the UEFA Conference League, Europa League or Champions League).

07

PLAYER IMPACT
TRAVEL EXPOSURES

Although COVID-19 temporarily decreased the amount of international travel, the burden on players from having to travel to other continents, and far-away time zones with extreme climate conditions is a significant concern for many players.

07 PLAYER IMPACT

TRAVEL COMMITMENTS

THE INTERNATIONAL TRAVEL COMMITMENTS OF TOP PLAYERS

International player travel across different time zones and varying climate conditions requires additional player safeguards.

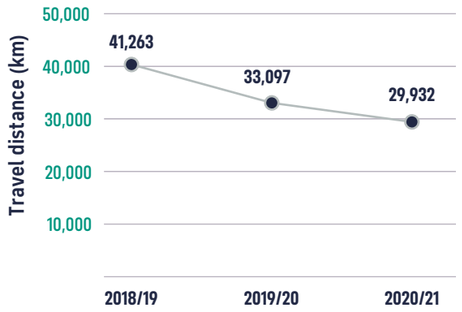
The global nature of football often requires considerable international travel during a season. Furthermore, prior to the pandemic, pre-season tours to other continents, together with an increase in the volume of matches, further increased the distances that players had to travel. Although during the 2019/20 season restrictions reduced travel, the 2020/21 season saw an increase in the average number of trips made.

In this section we aim to analyse all international cross-border travel by the players in the sample over the past three seasons. Besides cross-border travel, domestic travel can also put a significant burden on players, depending on the geographical dimension of a given country, but we have excluded domestic travel this time. It should also be noted that all cross-border travel between cities has been assumed to be air travel, regardless of travel distances.

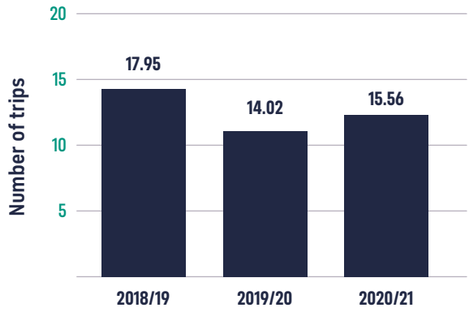
Excessive travel has a negative impact on player performance and wellbeing. And long-distance travel regularly includes crossing multiple time zones and extreme climate change, particularly when travelling from the north hemisphere to the south and vice versa. Across the entire sample we can see a significant dip in the volume of international travel in 2019/20, due to the cancellation of national team and other international matches. The trend continued for the 2020/21 season, although the season-on-season decline was more moderate.

By analysing the evolution of the average number of trips taken by players, we can see a decline in 2019/20, caused by the COVID-19 pandemic and the ensuing travel restrictions. However, as the global health situation started to improve, there has been a slight increase in trips made per player during the 2020/21 season.
In this chapter we are going to analyse the topic of seasons breaks from various perspectives.

Evolution of total travel distance (km) per player by season



Evolution of average number of trips per player by season



Source: PWM / Football Benchmark

CASE STUDY – INDIVIDUAL PLAYER TRAVEL LOAD COMPARISON

As alluded to earlier in this chapter, those players who play club and national team football in different confederations (regions) are often required to travel much further than their peers. Over the course of a long season these differences add up to a much higher overall workload.

This opens the question if players with significant more travel load due to national team competitions should be compensated with additional days of rest at the end of the season?

HARRY KANE | 2018/19 to 2020/21 combined statistics (three seasons) | HEUNG-MIN SON

When they were not injured, Tottenham Hotspur's Harry Kane and Heung-min Son both played whenever possible for their club and national teams. The main difference is that whilst Kane's England matches were all played within Europe, Son had to travel to Asia and other continents to play for South Korea. Even though Son had fewer national team appearances, he still accumulated 2.5 times more kilometres during his trips than Kane. Even more alarming is that Son spent 300 hours (more than 12.5 days) in transit over the last three seasons, and this is only counting international, cross-border trips!

Tottenham Hotspur FC (UEFA/England)	Club (confederation/country)	Tottenham Hotspur FC (UEFA/England)
England (UEFA)	National team (confederation)	South Korea (AFC)
159	**Total appearances, of which:**	**172**
128	club	152
31	national team	20
14,051	**Total minutes played, of which:**	**13,576**
11,378	club	11,720
2,673	national team	1,856

TRAVEL MAP

HARRY KANE

Total distance travelled: **86,267 km**

Time spent travelling (flight time): **123 hours**

Time zone crosses made: **64**

18.8% of trips crossing at least two time zones

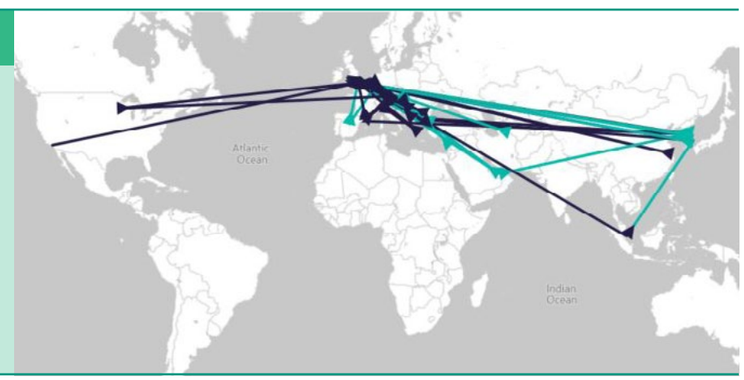
HEUNG-MIN SON

Total distance travelled: **223,637 km**

Time spent travelling (flight time): **300 hours**

Time zone crosses made: **204**

46.9% of trips crossing at least two time zones



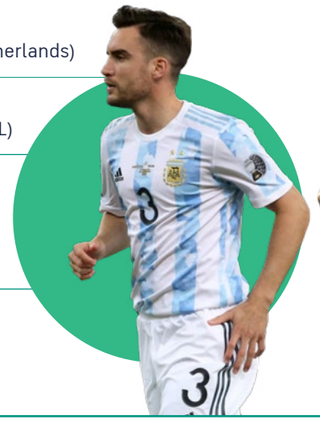
Club trip National team trip

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

DALEY BLIND — 2018/19 to 2020/21 combined statistics (three seasons) — NICOLÁS TAGLIAFICO

Daley Blind and Nicolás Tagliafico have both spent the last three full seasons at AFC Ajax in the Dutch Eredivisie. They are integral members of the squad and almost always play when they are available for selection. Their total minutes played are almost identical since 2018/19 and they appeared in almost the same number of national team games. However, since Tagliafico often had to travel to South America to represent the Argentinian national side (for qualifiers, friendlies, Copa America), his travel workload (in distance) is three times higher than Blind's. It is also of note that almost one third of his trips involved travelling to a match location at least two time zones away, which added further strain on the player.

AFC Ajax (UEFA/Netherlands)	**Club** (confederation/country)	**AFC Ajax** (UEFA/Netherlands)
Netherlands (UEFA)	**National team** (confederation)	**Argentina** (CONMEBOL)
163	**Total appearances, of which:**	**160**
135	club	134
28	national team	26
14,346	**Total minutes played, of which:**	**14,215**
11,879	club	11,953
2,467	national team	2,262



TRAVEL MAP

DALEY BLIND

Total distance travelled: **88,585 km**

Time spent travelling (flight time): **135 hours**

Time zone crosses made: **64**

8.2% of trips crossing at least two time zones

NICOLÁS TAGLIAFICO

Total distance travelled: **258,682 km**

Time spent travelling (flight time): **350 hours**

Time zone crosses made: **126**

29.8% of trips crossing at least two time zones

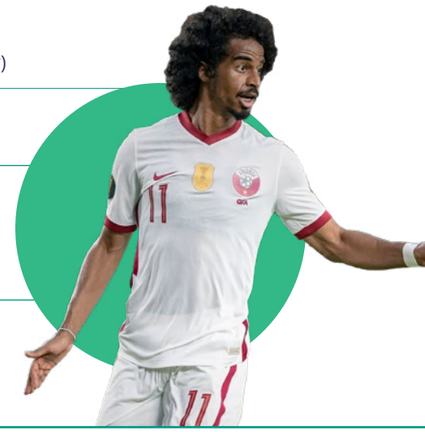
Club trip — National team trip

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

BAGHDAD BOUNEDJAH — 2018/19 to 2020/21 combined statistics (three seasons) — AKRAM AFIF

The issue is not exclusive to footballers playing in clubs based in Europe. For example, the Algerian forward Baghdad Bounedjah plays for Al Sadd SC in Qatar, where he is a teammate of Akram Afif, a member of the Qatari national team. Even though the two players' match workloads in terms of minutes played have been very similar since 2018, Bounedjah had to spend much more time travelling because his national team belongs to a different confederation/region. This result is all the more remarkable considering that the Algerian had much fewer national team appearances compared to Afif (24 vs 35), but much longer (and exhausting) trips on average.

Al Sadd (AFC/Qatar)	**Club** (confederation/country)	**Al Sadd** (AFC/Qatar)
Algeria (CAF)	**National team** (confederation)	**Qatar** (AFC)
126	**Total appearances, of which:**	**117**
102	club	82
24	national team	35
11,010	**Total minutes played, of which:**	**14,215**
9,382	club	7,472
1,682	national team	2,993



TRAVEL MAP

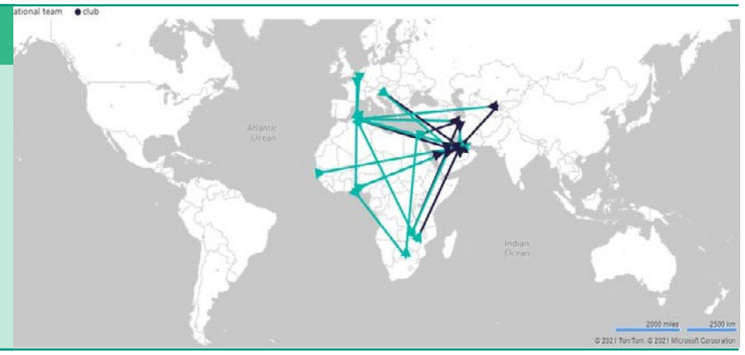
BAGHDAD BOUNEDJAH

Total distance travelled: **157,984 km**

Time spent travelling (flight time): **211 hours**

Time zone crosses made: **55**

43.5% of trips crossing at least two time zones



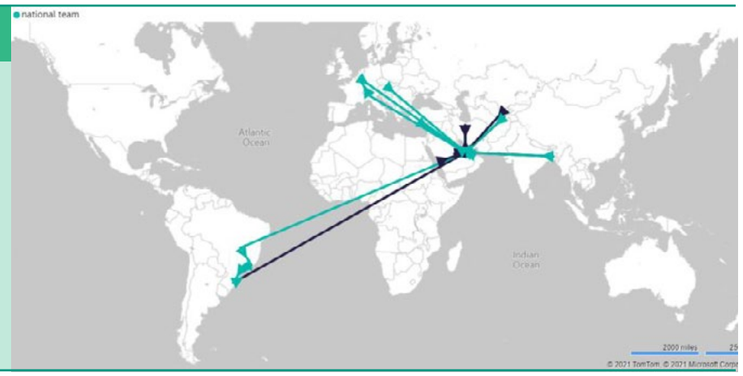
AKRAM AFIF

Total distance travelled: **97,374 km**

Time spent travelling (flight time): **134 hours**

Time zone crosses made: **50**

34.1% of trips crossing at least two time zones



Club trip — National team trip

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

ANALYSIS BY PLAYER PROFILE

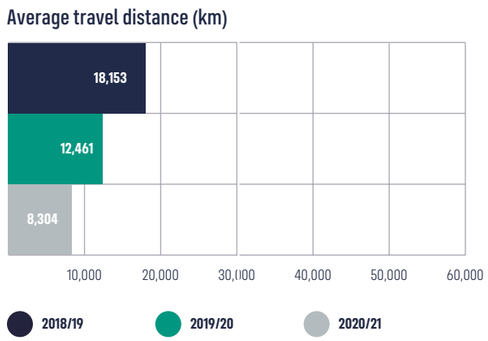
WHAT TYPE OF PLAYERS HAVE HAD THE MOST INTERNATIONAL TRAVEL LOAD?

Profile	Evolution of travel distance and number of trips made by an average player in the playing group (profile)	Key findings

DOMESTIC PLAYING GROUP

(PLAYERS MOSTLY EXPOSED TO DOMESTIC WORKLOAD):

players whose match schedule is mostly made up of domestic games; those in this category played a maximum of four national team or international club competition matches within the same season combined.

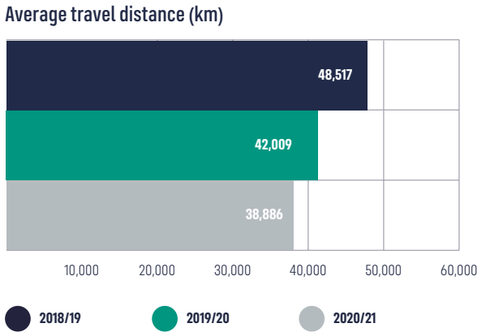


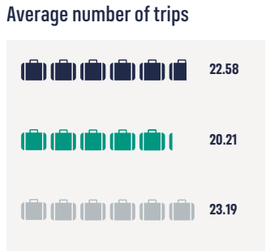
- The average travel distance per player in this group gradually declined season by season
- As only international travels are considered, the reason behind the downturn could be the reduction of opportunities in national team and international club appearances

INTERNATIONAL PLAYING GROUP

(PLAYERS FREQUENTLY PLAYING INTERNATIONAL COMPETITIONS):

players who in addition to their domestic competition duties played at least fifteen national team or international club matches in the same season. These players are mostly key members of their respective clubs and/or are regulars in their country's national team setup.



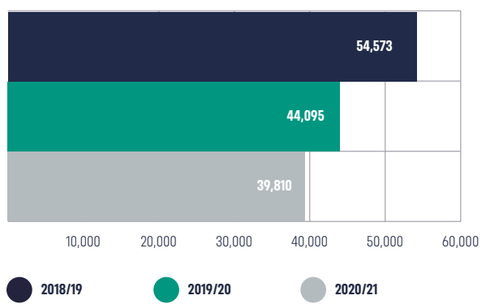


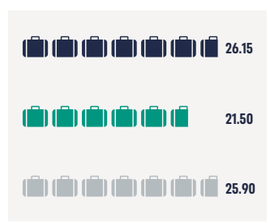
- The decreasing trend in average travel distance per player by season can also be observed in this group
- Although the average travel distance got shorter, the average number of trips made not only bounced back but exceeded the average of the pre-pandemic season

HIGHEST WORKLOAD PLAYING GROUP

(PLAYERS WITH THE MOST MINUTES PLAYED):

the twenty players in the PWM platform with the most minutes played across all competitions in a season. Players with this profile generally make it far in international competitions (e.g. Kylian Mbappé), play a lot of national team games (e.g. Lionel Messi) and are ever-present in their teams (e.g. Harry Maguire). They are international players at the very top of the professional game.





- Similar to other player groups with international workload, the average travel distance decreased season by season
- The gap between the group of international players and the group with highest workload gradually reduced, and almost disappeared
- The travel restrictions during the pandemic reduced the average number of trips by 4, but this returned to normal during the 2020/21 season

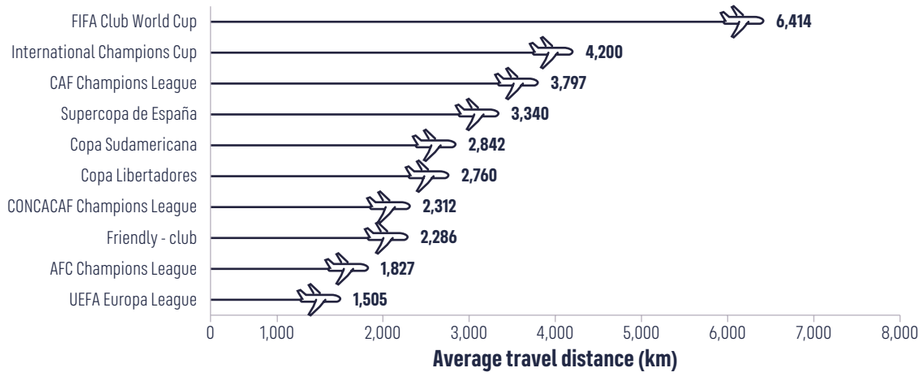
Note: One complete luggage stands for 4 international, cross-border trips

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

COMPETITIONS AND TRAVEL DISTANCE

In this section the top 10 competitions that necessitate the longest international trips on average are identified and analysed both at national team and at club level.

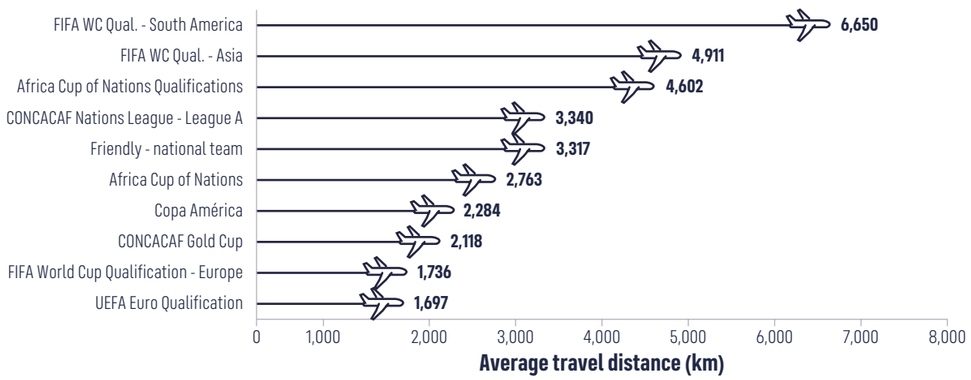
Top 10 club competitions by the average length of an international trip associated to them (2018/19-2020/21)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

- At club level, the FIFA Club World Cup hosted in the UAE were responsible for the longest trips on average, exceeding 6,400 kilometres.
- The pre-season competition of the International Champions Cup is in second place. This is not surprising given the high number of European clubs travelling to North American and Asia to take part in this friendly tournament.
- While most competitions in the analysis are international in nature, there is a domestic cup in 4th place on the list. The Supercopa de Espana was moved to Saudi Arabia in 2019/2020 which led to significant travel burden for the participating players. Although the 2020/21 edition was held in Spain, the next edition is planned to be played once again in Saudi Arabia.

Top 10 national team competitions by the average length of an international trip associated to them (2018/19-2020/21)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

- At national team level, the FIFA World Cup Qualification is the main culprit requiring long travel, especially in South America and Asia where the geographical distances are significantly larger than in Europe. This also includes players who play club football on another continent and thus have to travel long distances for national team duty
- It is notable that even friendly matches between national sides can also generate a high travel workload, even though many of them could be considered an unnecessary burden on players already enduring a dense match calendar

When you're a player all you want to do is play but over the years it becomes harder and harder to sustain the constant rhythm of the matches on top of the long flights to different climates and time zones. Travel can be exhausting on players but we don't talk about it.
It affects a player's ability to maintain his best physical condition over the seasons and can ultimately shorten one's career in football.

Geremi Njitap
(President of FIFPRO Africa, former player)

CONFEDERATIONS AND TRAVEL TIME

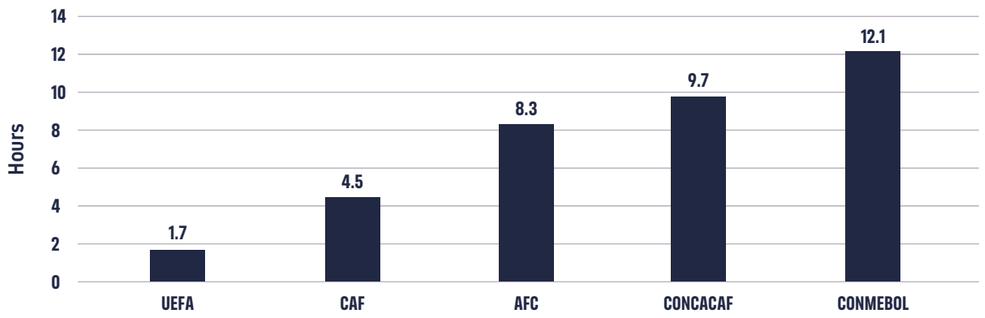
Players whose club is in a different confederation to their national team experience disproportionately higher international travel load. Given the fact that most players in the PWM sample play in Europe, national team games can therefore lead to long travel times. Getting to and from the location of a game on another continent also means that the player must miss more training days at his own club and has a shorter recovery time, following an often tiring trip.

Furthermore, long-distance travel involves having to cross time zones and undergo acclimatisation periods.

Often, the players must then take part in several matches within a few days followed by an equally gruelling trip back to their clubs. Nevertheless, very few players are willing to give up this opportunity as they want to represent their country and see this this as a core part of their identity as an international player.

The chart below shows the travel time between UEFA and other confederations during the analysis period of 2018-2021. The values are averages across all international trips recorded in by the players of the PWM platform.

How long does an average trip (international flight) from UEFA (Europe) to other confederations take?
(PWM sample, 2018-2021)



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

The results clearly confirm that players called up by national teams of other continents have a much higher travel workload than those who stay within Europe for both club and national team matches. For example, an average, one-way trip for a South American player takes seven times longer, but even African players need to spend 2.5 times more on an average international flight.

This creates an unequal "playing field"; while real-life distances cannot be altered, it might be worthwhile to review the necessity of international trips based on the importance of the competition they are associated to.

08

PLAYERS IN FOCUS

Players from all around the world at various levels of the football industry have to cope with vastly different workload challenges. In order to illustrate this variance we present several case studies in this chapter, across five of the main confederations. For each selected player we take a look at their match workload, rest periods, season breaks and travel data, whilst also providing a short commentary.

UEFA RÚBEN DIAS

Centre-back

Analysed match period: 21st July 2018 – 27th June 2021

Clubs played for

Match workload

198 match appearances
(**66** apps per season)
92.7 minutes per appearance
18,361 minutes played in total

Critical zone

73.3%
of all minutes played in critical zone

- After making his first-team debut in SL Benfica in 2017, Rúben Dias quickly became an important player for his club as well as for the national side.
- His good performance caught the eye of many top clubs in Europe and he eventually signed for Manchester City FC in September 2020.
- The centre-back established himself as the undisputed first-choice defender in the English side and won the Premier League Player of the Season award. He started all but six club matches in the 2020/21 season and was substituted off only four times. His season was quite congested due to the COVID-19 delays and many competitions.
- Over the last three full seasons, Dias has accumulated over 18,000 playing minutes and almost 200 appearances, which are the highest values in the entire PWM platform.

AFC YASSER AL-SHAHRANI

Full-back

Analysed match period: 25th July 2018 – 28th June 2021

Clubs played for

Match workload

134 match appearances
(**44.6** apps per season)
96.0 minutes per appearance
12,868 minutes played in total

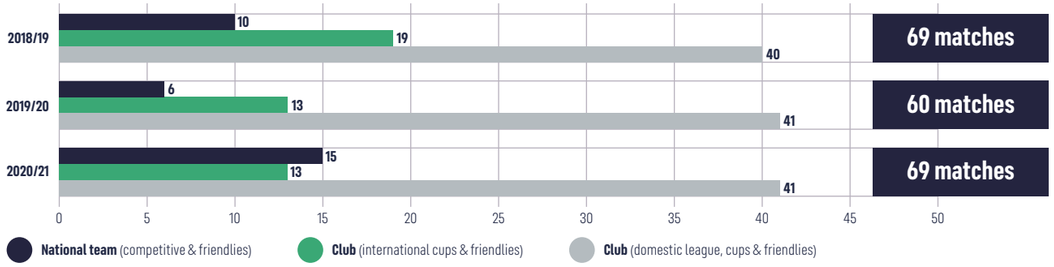
Critical zone

52.6%
of all minutes played in critical zone

- The full-back has played by far the most minutes in the PWM sample among Asia-based players. A mainstay in the Al Hilal side, he has also accumulated highest % of minutes in the critical zone in the region.
- The COVID-affected 19/20 season was probably the toughest: the Saudi league restarted after a 5-month hiatus and finished at a breakneck pace. The domestic cup and the AFC Champions League were also completed after a delay.
- After missing a few matches due to COVID, he was back in action for the start of the new season in mid-October 2020. Since then he has been virtually ever-present in the side and was subbed off only once.
- Al-Shahrani has played 31 national team matches since 2018. At the end of a busy club season, he took part in June's World Cup qualifiers, followed by the Tokyo Olympics in July where he played every minute. Three weeks later, he was already back at Al Hilal for the new league season.

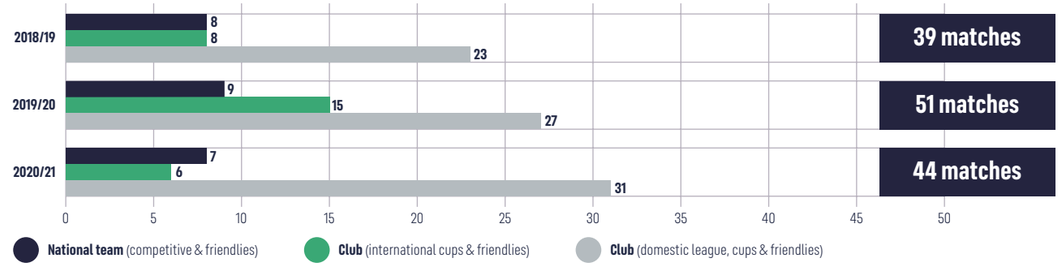
APPEARANCES BY MATCH TYPE

Dias consistently had a high number of minutes at his club(s) and was selected to play at almost every available opportunity for his national side.



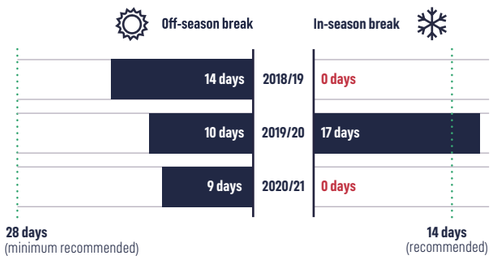
APPEARANCES BY MATCH TYPE

Al-Shahrani experienced an increased workload during the 19/20 season, mainly due to the good club performance on the international stage by playing in the AFC Champions League as well as in the FIFA Club World Cup.



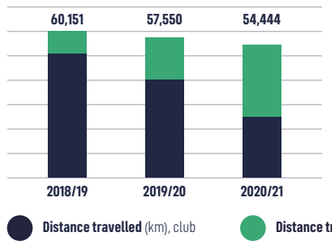
SEASON BREAK LENGTH

The recommended number of off-season or in-season break days were rarely met. In two out of three seasons he did not have an in-season break at all.



TRAVEL COMMITMENTS

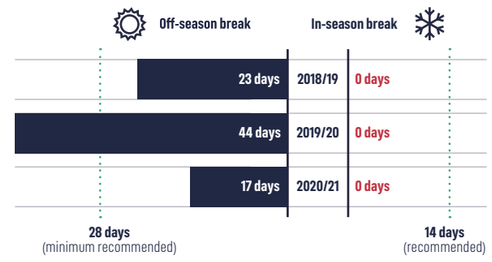
Club travel decreased in 20/21 due to the cancellation of pre-season friendly tours, but this was almost entirely compensated by the return of more national team games and UEFA Euro 2020.



172,144 kilometres in total
Travelling **4.3 times** the length of the Equator
Approx. 10 days spent travelling
107 time zones crossed during the trips

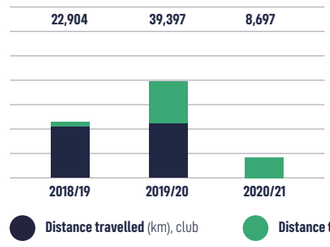
SEASON BREAK LENGTH

The recommended number of off-season or in-season break days were met only once. The player had no off-season breaks at all during the 3 season under review.



TRAVEL COMMITMENTS

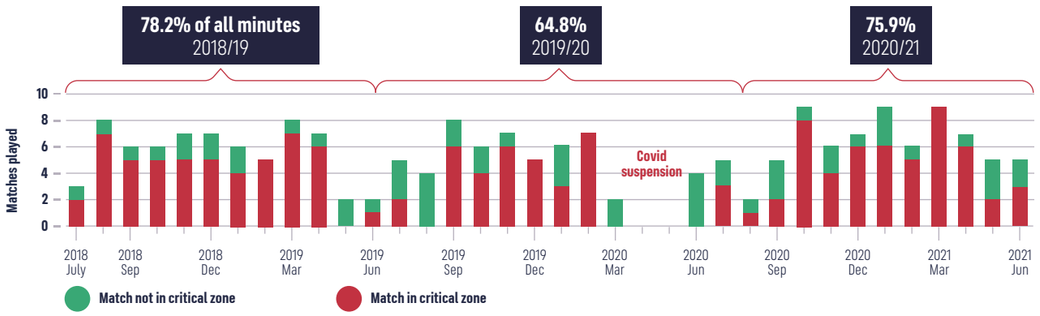
National team travel increased during the 19/20 season as the FIFA World Cup Qualification for Asia kicked off.



70,997 kilometres in total
Travelling **1.8 times** the length of the Equator
Approx. 4 days spent travelling
46 time zones crossed during the trips

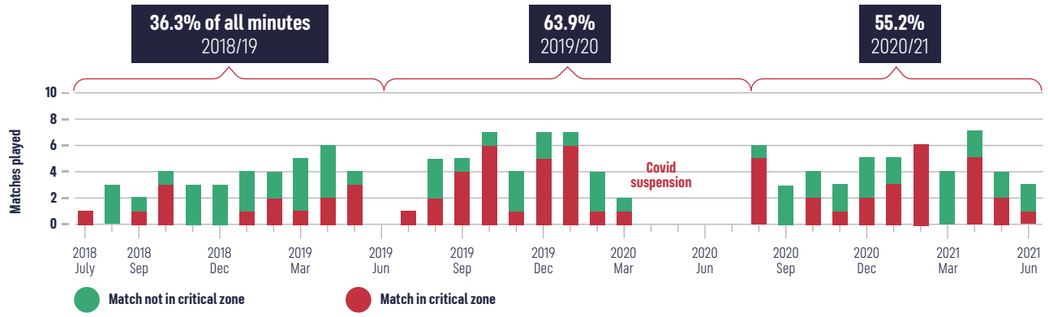
MINUTES PLAYED IN CRITICAL ZONE

In each of the last three seasons, Rúben Dias played at least two-thirds of all his minutes in the critical zone. There were several periods of many back-to-back matches without sufficient rest.



MINUTES PLAYED IN CRITICAL ZONE

The last two seasons have seen a significant increase in Al-Shahrani's workload as his schedule has become more congested.



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

CAF TAREK HAMED

Midfielder

Analysed match period: 4th August 2018 – 28th June 2021

Clubs played for

Match workload

135 match appearances
(**45** apps per season)

92.2 minutes per appearance

12,441 minutes played in total

Critical zone

54.3%

of all minutes played in critical zone

- The midfielder has been an integral player in Egyptian side Zamalek SC ever since he joined in 2014. In the analysed period of 2018-2021 he accumulated the most minutes and the highest critical zone percentage out of all Africa-based players featured in the PWM platform.
- The share of his minutes that fall into the critical zone has been rapidly increasing: starting from an already quite high 48% in 2018/19 it has reached 64% by 2020/21. This is partially due to the schedule becoming more congested after COVID, but the Olympic Games were also a factor. The league was halted in July due to the Games and once play resumed, Hamed and his peers had to play seven (7!) games within 3 weeks.
- Hamed was also called up for Egypt's training camp for the World Cup qualifiers which started mere three days after the conclusion of the league.
- As for other recent national team commitments, he had the most matches during the 2018/19 season when he took part in the Africa Cup of Nations.

CONMEBOL MAURICIO ISLA

Full-back

Analysed match period: 7th July 2018 – 1st August 2021

Clubs played for

Match workload

155 match appearances
(**51.6** apps per season)

84.7 minutes per appearance

13,132 minutes played in total

Critical zone

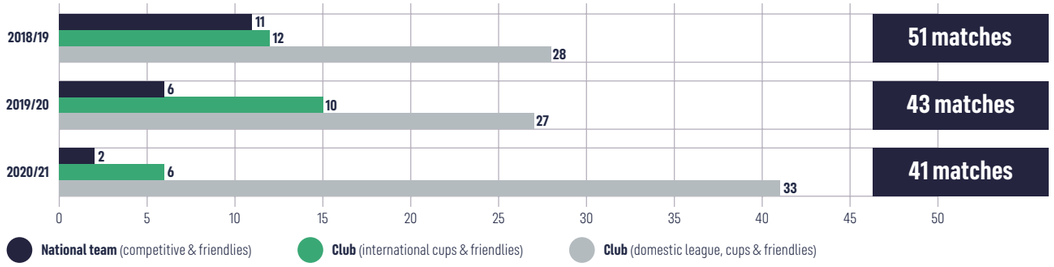
49.7%

of all minutes played in critical zone

- One of the key figures of Chile's double Copa America-winning team, Mauricio Isla is still an important member of the national side at 33 years of age.
- He was on the pitch for every minute of Chile's Copa America 2021 campaign, as well. In addition to the tournament being held in the middle of many participating players' domestic season, they also faced added stress due to the uncertainty surrounding the start of the tournament and its location.
- Isla signed for Flamengo in August 2020, ending his time in Europe. He arrived not long after the post-COVID restart of the Brazilian Serie A and played almost every minute until the end of the season. In just 25 weeks he played 37 matches in a very congested period
- Note: the figures presented here for the 2021 season are incomplete since the Brazilian football season ends in December 2021, after our publication deadline..

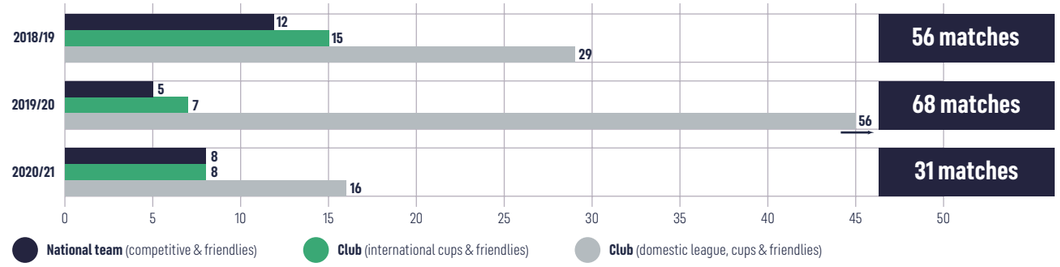
APPEARANCES BY MATCH TYPE

Hamed's match workload decrease season by season mainly due to the lower number of national team appearances. The 2018/19 season presented more opportunities as he played in the African Cup of Nations



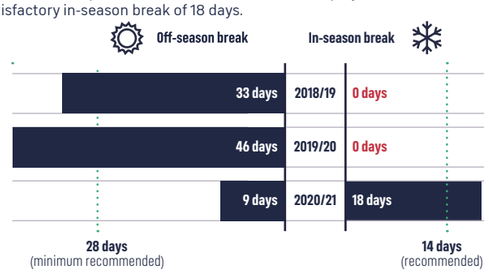
APPEARANCES BY MATCH TYPE

Isla is one of the most utilised players in his teams. In the COVID effected 19/20 season he played a staggering 68 matches, mostly at domestic level by playing for Fenerbahce and later for Flamengo. As the 2021 season is still being played in Brazil the 20/21 season's data is incomplete.



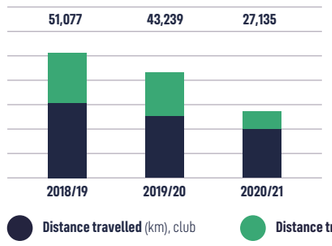
SEASON BREAK LENGTH

At least one of the recommended number of off-season or in-season break days were met during the analysed seasons. The off-season break days took a steep decline for 20/21 but in return the player had a satisfactory in-season break of 18 days.



TRAVEL COMMITMENTS

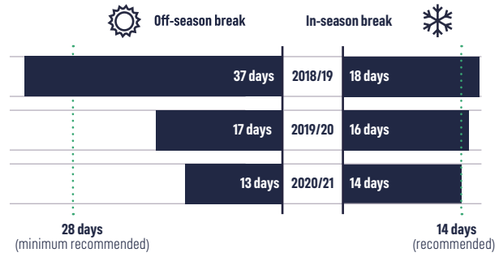
The total distance travelled notably decreased during the analysed period. The decline was more gradual for club travels while national team travels decreased for the 20/21 season as the player played less matches for his country.



121,451 kilometres in total
Travelling **3.0 times** the length of the Equator
Approx. 7 days spent travelling
34 time zones crossed during the trips

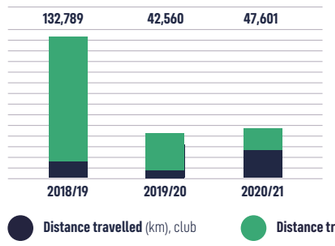
SEASON BREAK LENGTH

The length of both off-season and in-season breaks decline during the analysed period. The recommended off-season break was only met once, during the 18/19 season.



TRAVEL COMMITMENTS

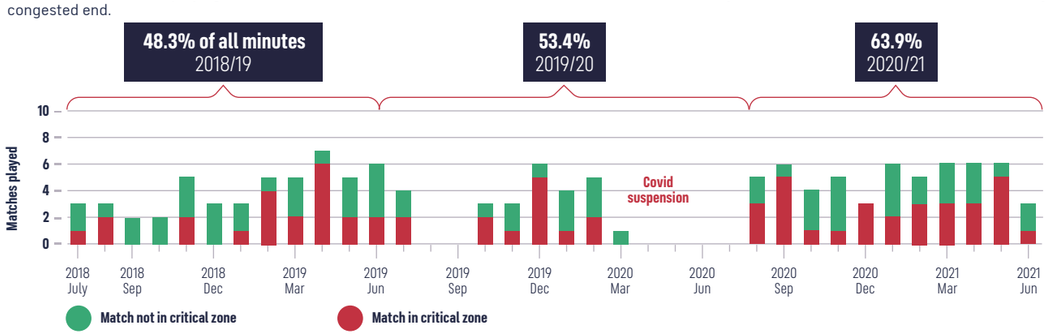
During the 18/19 season the player travelled an exceptionally high distance by playing in Europe and travelling to South America for the Copa América and national team friendlies.



163,327 kilometres in total
Travelling **4.1 times** the length of the Equator
Approx. 9 days spent travelling
114 time zones crossed during the trips

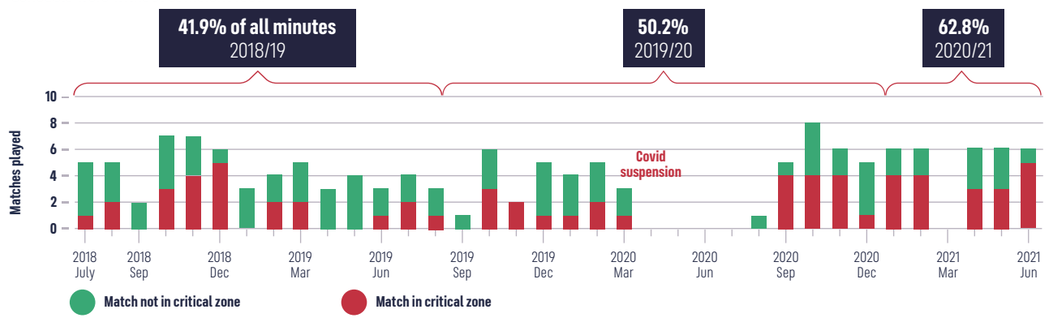
MINUTES PLAYED IN CRITICAL ZONE

Almost two-thirds of his playing time was in the critical zone in the 2020/21 season that started immediately after the conclusion of 2019/20 and had a very congested end.



MINUTES PLAYED IN CRITICAL ZONE

Isla's playing time in the critical zone has increased significantly after transferring to the Brazilian league. At least 4-5 appearances each month in his schedule were without sufficient rest.



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

CONCACAF JOHAN VENEGAS

Forward

Analysed match period: 22nd July 2018 - 10th June 2021

Clubs played for

Match workload

142 match appearances
(**47.3** apps per season)

84.4 minutes per appearance

11,984 minutes played in total

Critical zone

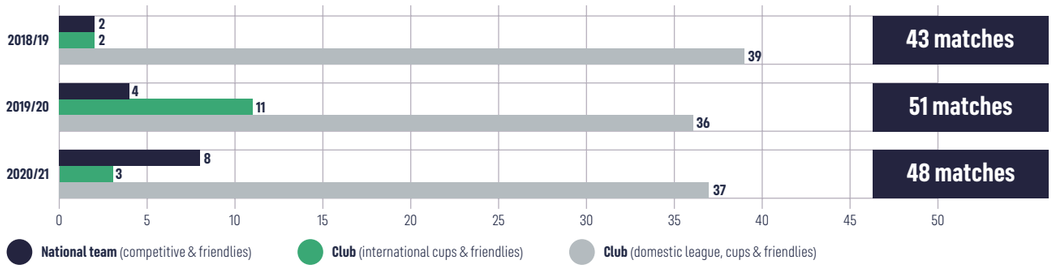
56.8%

of all minutes played in critical zone

- Venegas has had one of the highest number of playing minutes and critical zone minutes percentage in the PWM platform since 2018 among those based in the CONCACAF region.
- The Costa Rican played almost every match in the league and participated in various international competitions at both club and national team levels.
- His 2019/20 season was the most challenging as two-thirds of his total on-pitch time was in the critical zone. This is due to the fact that after two months of COVID suspension, the outstanding matches of the Costa Rican league were played in quick succession. Despite COVID, the season ended only a month later than originally scheduled.
- His workload was also increased by the CONCACAF League in which he reached the final with his then-club Deportivo Saprissa.
- He played 205 minutes at the 2021 Gold Cup. Only three days after the tournament he was already back at his club for the opening game of the 2021/22 season.

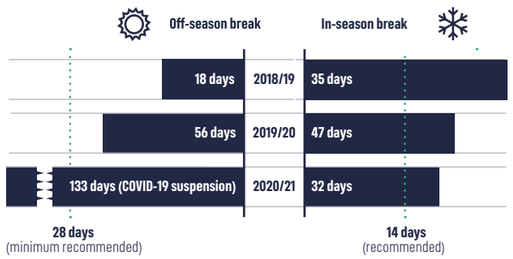
APPEARANCES BY MATCH TYPE

At domestic level, the number of club appearances are stable during the three seasons. In 19/20 Venegas experienced increased number of international club matches when helping his team in winning the CONCACAF League.



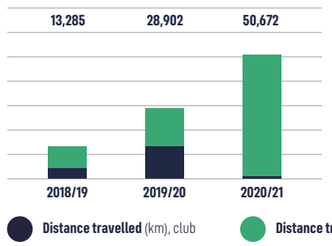
SEASON BREAK LENGTH

The recommended number of off-season or in-season break days were mostly met. During the 18/19 and 20/21 seasons the length off-season breaks days was not satisfactory.



TRAVEL COMMITMENTS

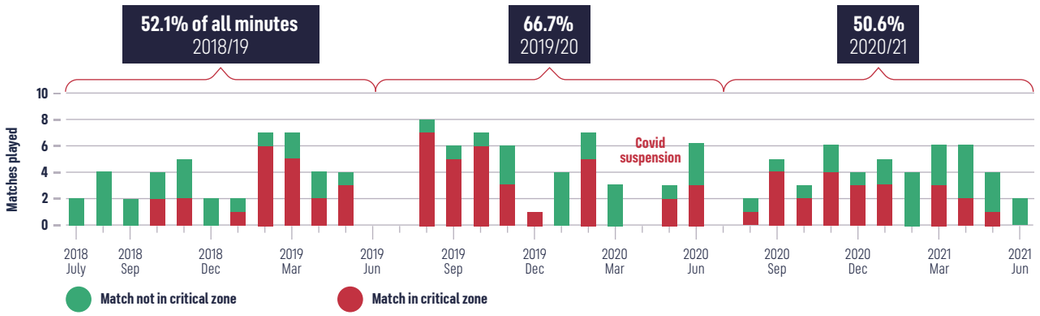
The distance travelled considerably increased season by season. Despite club travels were minimal during 20/21 season, the national team commitments placed significant burden on the player from a travelling point of view as Costa Rica played multiple friendlies in Europe.



92,860 kilometres in total
Travelling **2.3 times** the length of the Equator
Approx. 5 days spent travelling
46 time zones crossed during the trips

MINUTES PLAYED IN CRITICAL ZONE

Very intense start to the 2019/20 season with three consecutive months of high critical zone minutes total.



Source: FIFPRO PWM platform, KPMG Football Benchmark analysis

09

METHODOLOGY
OUR ANALYTICAL APPROACH

The findings presented in this annual report are largely based on data from the FIFPRO Player Workload Monitoring (PWM) digital platform covering the match, rest & recovery, travel and other workload statistics of professional footballers from around the world.

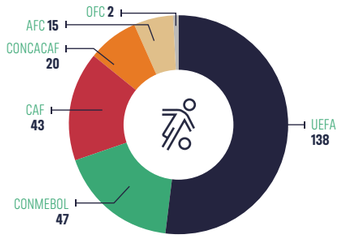
09 METHODOLOGY

OUR ANALYTICAL APPROACH

In order to put the analysis within the report into context it is important to understand the key characteristics of the underlying dataset.

PLAYER SAMPLE & PROFILES

There are currently 265 professional male footballers in the PWM platform, representing a wide range of nationalities. The visual shows the breakdown by the confederation of the players' nationality.
In some chapters the sample is segmented by profile. As players are exposed to different levels of workload demands, we identified three distinct groups for a more nuanced view.



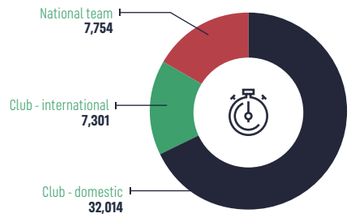
1. **Domestic playing groups:** players mostly exposed to domestic workload (maximum of 4 national team or international club competition matches within the same season);
2. **International playing groups:** players frequently playing international competitions (minimum of 15 national team or international club matches in the same season);
3. **Highest workload playing groups:** top 20 players with the most minutes played across all competitions in a season.

SEASONS ANALYSED

All matches currently featured in the PWM platform took place between June 2018 and August 2021 (end of the football tournament at the 2020 Tokyo Olympic Games). This covers three entire football seasons for most of the players

MATCHES COVERED

There are currently over 40,000 player appearances on record in the PWM platform. This includes all competitive and friendly matches of all players in the sample. Appearances are categorised as either domestic club, international club or national team matches.



SEASON DEFINITION

While most competitions featured in the PWM platform follow the Autumn-Spring schedule (2019/20 season), there are some that are organised on a calendar year basis, the so-called "Summer leagues" (2020 season). In order to make them comparable, the data related to the Summer leagues was re-categorised under the Autumn-Spring schedule seasons closest to them. For example, 2019 season data is referred to as 2018/19, while 2020 season games analysed together with the 2019/20 matches. Please note that since, at the time of publication, the 2021 seasons were still ongoing and thus incomplete, those matches have been excluded from the scope of this report.

TERMS & DEFINITIONS

The following terms are used throughout the report to illustrate the workload situation of professional football players. The same principles are applied within the FIFPRO PWM platform.

GLOBAL PLAYER AND COMPETITIONS

FIFPRO PWM SAMPLE – This annual report analyses match schedule and workload data of the 265 male professional football players who are part of the FIFPRO PWM platform. This is a diverse group, representing players from 6 confederations and 44 domestic leagues. The analysis covers all of the matches played by these players, including official club and national team matches as well as friendlies.

PLAYER WORKLOAD

PLAYER WORKLOAD – This terms refers to all applicable workload indicators such as match workload, rest & recovery and travel. The concepts of overload and underload relate to the imbalance between the load induced on players (match workload and travel log indicators) and their recovery (rest & recovery indicator). It is important to note that it is the cumulative exposure to overload or underload which really impacts on a player's health, performance and career longevity.

MATCH WORKLOAD

MINUTES PLAYED AND APPEARANCES – the number of minutes spent on the pitch by a player during a match. Includes added time at the end of the first and second halves as well as any extra time required for competitions (where applicable). If a player played any length of time of a match then it is accounted for as an appearance.

MATCH TYPE – matches played by a player are divided into various categories: domestic league, domestic cup, international club competition, club friendlies and national team matches.

CRITICAL ZONE – a match is considered to fall into the "critical zone" if the player was on the pitch for at least 45 minutes and played a minimum of 45 minutes in the previous game and did not have at least 5 days of rest and recovery time between these two appearances. It is important to note that it is the cumulative exposure to matches in the critical zone, together with travel, and potentially shortened off-season and on-season breaks, that constitutes an issue for a player's health, performance and career longevity.

REST & RECOVERY

REST TIME – the period (in hours and days) between the end of a player's previous match and the start of their next match. This is generally the time allocated to rest & recovery and training. According to FIFPRO's 'At the Limit' study from 2019, players need at least 120 hours (5 days) between games to perform at their best over a season and to manage injury risk.

OFF-SEASON BREAK – the period given to players between two seasons, without training or matches, in order to recover and regenerate. Off-season breaks are mandatory, should last at least 28 days (combination of physically inactive and active weeks) and must take place outside the club and national team environment.

IN-SEASON BREAK – the period (in calendar days) that a player is permitted to take without matches or training, during a season. On-season breaks are mandatory and should last 14 days. However they are sometimes not honoured, particularly given the demanding requirements of the match calendar.

RE-TRAINING – following the off-season break / holiday period, a minimum acceptable period of time for re-training and preparation must be guaranteed to all players before participation in future competitive matches. The optimal duration of a re-training period depends on various factors including the physical status of the player and the duration of the break itself. However, it is considered that a re-training period lasting at least 4 weeks is needed to work fundamentally on injury prevention and to optimize future performances.

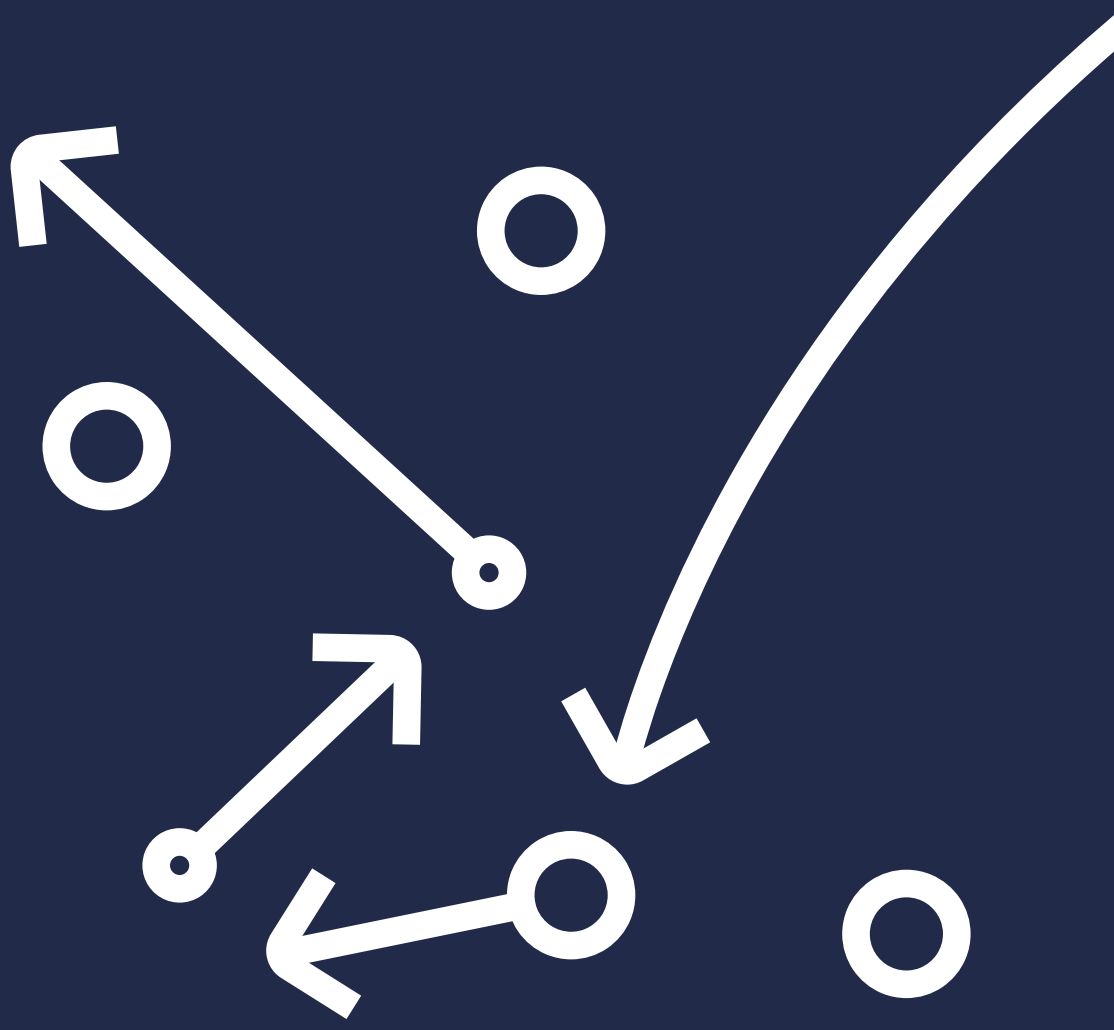
TRAVEL

TRAVEL DISTANCE – The flight distance in kilometres between the departure and arrival location. Only trips made for national team matches or club matches played abroad are considered for analysis.

TRAVEL TIME – The flight time expressed in minutes between the departure and arrival location. Only trips made for national team matches or club matches played abroad are considered for analysis. For every calculation the speed of an average commercial flight is assumed. 20 minutes are added to account for take-off and landing.

TIME ZONES CROSSED – Many matches are played in time zones different to the one the player usually stays in. This indicator sums up the number of time zones crossed during the trip the player takes to and from the location of such matches. An excessive number of time zone crosses can have an adverse effect on the player's mental and physical well-being as it often takes a while for the body to get accustomed to another time zone and location.

EXTREME CLIMATE CONDITIONS – Cases in which players need to appear in matches played in different climates within a relatively short period of time. Peak performance is difficult to achieve without allowing enough time for the body to get accustomed to a vastly different climate environment. Cases like this often involve players travelling to another continent or between the northern and southern hemispheres.



FIFPRO
FOOTBALL PLAYERS WORLDWIDE

fifpro.org

info@fifpro.org

+31 23 554 6970

Scorpius 161,
2132 LR Hoofddorp
Netherlands

This report was realised in association with KPMG Football Benchmark

Photo cover by:
Imago

Main photo sources:
Imago