Executive Summary

This document presents the final publishable report of the EuroFIT project. EuroFIT is a social innovation project funded under the European Union's Framework 7 Programme for Research and Innovation. Its core concept was to attract people to lifestyle change through their personal connection and loyalty to the professional football club they support. The EuroFIT programme specifically targeted overweight men and was designed to support men to become more physically active, reduce their sedentary time, and to maintain these changes to at least 12 months after baseline. Participants were also given the skills to improve their diet if they wanted to lose weight. The men were recruited from the fan bases of fifteen clubs in the UK, the Netherlands, Portugal and Norway and the programme was delivered over 12 weeks by trained coaches in club stadia. The links with the clubs were effective in attracting and retaining men throughout the programme.

The project builds on the most recent research in behavioural science, in public health, in personal health technology and in exercise and diet. It combines novel personal monitoring technology (the SitFIT, which measures both activity and sedentary behaviour in great detail over extended periods), social and collaborative game play (the MatchFIT app), and behavioural science evidence, to create a multi-disciplinary and multi-faceted programme. The EuroFIT programme consists of 12 sessions, each of which includes collective exercise (including walking football, stretching and warmup/warmdown), as well as learning skills to both initiate and maintain behavioural changes.

In order to assess the effectiveness of the programme, the EuroFIT project carried out an extensive randomised control trial, with 1113 participants from across Europe. All 1113 were measured and then 50% of the participants were randomly chosen to receive the EuroFIT programme. All the participants were measured again after the programme had finished and again 12 months after the baseline measurement. Once the trial measurements were complete, the control group then received the EuroFIT programme. Measurements included physical activity, sedentary time, diet, BMI, blood pressure, wellbeing, quality of life and optional blood samples.

Overall, the results were very positive, with significant improvements in physical activity, in diet, BMI, well-being, vitality and biomarkers of health. However, EuroFIT did not succeed in reducing sedentary time. This may have been because the message to be more physically active and to stand up more got confused, because standing more is not yet an established public health message or because sitting is so ingrained in our culture that it is hard to change. A within trial cost-effectiveness analysis showed that the EuroFIT programme is unlikely to be cost-effective in the short-term. However, long-term cost effectiveness, analysis, modelled through EuroFIT's potential effect on colorectal cancer, cardio-vascular disease, depression, stroke, and type 2 diabetes, showed a 90% likelihood it would be cost-effective at €10,000 per Quality Adjusted Life Year. The conclusion drawn is that EuroFIT is an effective physical activity programme delivered in a football setting. It has been validated across multiple countries and healthcare systems, and has an excellent evidence-base for roll-out across Europe.

The team also looked closely at what was required to replicate the programme in clubs which were not receiving support from the EU in the context of a funded research project. The conclusion drawn was that scale-up and scale-out are entirely feasible, but that a

supportive funding source for delivery (to pay for coach training, materials, delivery and quality assurance) is a pre-requisite.

The project has a real future. The EuroFIT programme is already embedded as a core component of the Portuguese National Physical Activity Programme, following the formation of a partnership between the Portuguese Football Federation and the Portuguese Directorate-General for Health. The programme has been launched with the support of UEFA and the European Commission, and roll-out to leagues and clubs across Europe is now being investigated. A legal framework and collaborative structure for ongoing licensing, quality assurance and certification has been agreed, and an executive agency to carry these processes has been appointed.

Summary description of the project context and the main objectives

Introduction to EuroFIT

EuroFIT is a project that leverages the love for football to change lives.

Many millions of Europeans, mostly men, attend football league matches. Many more watch on television or via a range of internet-connected devices. Their loyalty and attachment to their teams are deep and long-term, often passing from father to son. They rejoice when their team wins, despair when it loses, but return week after week, season after season, to support their team. Football transcends social class and boundaries, the football fan base includes men from all socio-economic-status (SES) groups. Conversely, public health programmes and researchers have real difficulty in reaching middle-aged men, and in convincing them to change their behaviour (eat more healthy food, take more exercise), particularly over the longer term.

EuroFIT uses football to reach men and to encourage them to adopt a healthier lifestyle. A team of health scientists, behavioural researchers, implementation scientists and clinicians have established a cooperative project with professional football clubs around Europe – in Portugal, the UK, the Netherlands and Norway. The project recruits men from the club fan-bases, and provides them with a mixed programme of learning skills to initiate and maintain behavioural changes, information about energy balance and healthy eating, and collective physical activity. The programme is designed to be fun, for men to learn from one another, and to be delivered in a supportive, motivational, way. Crucially, this programme is delivered by club coaches, in club stadia, and with the full backing and active involvement of the clubs themselves. Loyalty to the club and enthusiasm for football are important parts of each man's decision to take part in EuroFIT; camaraderie, shared passion and a sense of 'team commitment' help each participant to stay the course and to complete the programme.

How big is the problem?

Physical inactivity (defined as not reaching the physical activity guidelines published by the World Health Organisation) accounts for about 10% of all deaths in Europe, and is a risk factor for the development of many health conditions, such as heart disease, diabetes and colon cancer. 35% of all adults are inactive; the older the person, the more likely he or she is to be inactive.

Sedentary behaviour is a further cause of ill-health, over and above the impact of physical inactivity. A typical European spends 8-10 hours per day sitting.

Only 10-30% of participants in lifestyle programmes to improve health are men. Men can see themselves as 'not the kind of person' to make positive lifestyle changes. Such cultural and social factors are a major obstacle to improving the health of middle-aged men.

Long-term lifestyle change is difficult to achieve. While short term enthusiasm can lead to encouraging results (e.g. weight loss, increased physical activity levels), maintaining these changes over time is very challenging. Any project such as EuroFIT needs to focus on long-term behaviour change, if it is to offer a real benefit.

Six Key Features of EuroFIT

The project has six key features, which combine to deliver this unique approach to better health for men:

1. **Allegiance**: the loyalty that men feel to their clubs is central to the EuroFIT concept. This allegiance helps them to decide to take part, and encourages them to stick with the programme. Not leaving, and continuing to follow a programme, are major obstacles in any health intervention – making resolutions is easy, sticking with them is hard.
2. **Behavioural science**: we use the latest research in behavioural science to understand what will work, and what will not work, to help men to stay 'on track' and make a difference in their own lives. Some important elements of the programme include the development of a toolkit of self-regulatory skills, the delivery of real-time feedback and encouragement, gender-sensitive ('men only') sessions, diet and physical activities that are specially tailored to be attractive to men. Overt competition is avoided (for every winner, there are losers, and losing is more de-motivating to the majority than winning is a boost for the few), while a mutually supportive and team-based atmosphere is very much promoted.
3. **Sensors**: we use a novel technology, the SitFIT device, to monitor physical activity (moving around) and sedentary behaviour (sitting and lying down). This goes beyond the simple 'step counter' available on phones or low-cost pedometers, and differentiates between sitting and standing, as well as recording how often the device is consulted. Sedentary time is increasingly being recognised as a risk factor for ill-health that is separate to low levels of physical activity; EuroFIT is the first project to allow the self-monitoring of sedentary time in its own right. The SitFIT provides accurate, real-time feedback on activity which allows participants to change their behaviour on a real-time basis; this is known to be an important motivator for behaviour change.
4. **Social media and games**: the EuroFIT programme includes a smart-phone app, MatchFIT, which lets users join their own teams in a virtual league, and to contribute to the success of this team, in terms of physical activity. Group activities add extra incentive and enjoyment to the behaviour change.
5. **EuroFIT uses a randomised control trial (RCT)** to verify that the programme actually works. RCTs are the gold-standard scientific experimental design for testing whether something works; data from a well-planned RCT can confidently be used by healthcare policy makers and by football clubs who want to ensure that the programmes or activities that they offer are actually going to work.

6. Finally, we focus on **replication** – on the EuroFIT programme being suitable for rolling out in other clubs, and evidence-based implementation strategies, in other countries and in other sports, even without any support from the EU or other external funders. While improving the health of 1,000 men is great, our target is many millions.

The Clubs

Collaboration with professional football clubs is a key part of EuroFIT. This approach was pioneered by the Scottish FFIT (Football Fans in Training) project, led by EuroFIT coordinators the University of Glasgow. In EuroFIT, the network of teams went across Europe, and included

- UK
  - Arsenal
  - Everton
  - Newcastle United
  - Manchester City
  - Stoke City
- NL
  - FC Groningen
  - PSV
  - Vitesse
  - Ado Den Haag
- Portugal
  - SL Benfica
  - Sporting CP
  - FC Porto
- Norway
  - Strømsgodset IF
  - Vålarenga
  - Rosenborg

EuroFIT programme sessions are delivered by coaches employed by the clubs, on club premises. This tangible link to the clubs helped both to encourage men to join the programme, and to remain active in the programme for its full duration.

During the project, the EuroFIT team worked with other clubs to assess how easy it is for a new club to adopt and deliver the EuroFIT programme, without EU research funding. Strong results were achieved, and the research team is now confident that the programme can be replicated and rolled out across Europe and beyond. Work is ongoing with UEFA and national leagues to make this a reality. The clubs who were involved in this replication work included

- England
  - Blackburn Rovers FC
  - Leicester City FC
- NL
  - SC Heerenveen
- Norway
  - SK Brann
- Portugal
  - SC Braga
  - Rio Ave FC

EuroFIT's Objectives

Overall, EuroFIT aimed to create, deliver and evaluate a lifestyle change programme that would succeed in attracting and retaining men from all social classes, and would lead to improved health. To do this, the project had a series of specific key objectives

1. To use the latest behavioural science research to develop a lifestyle programme for overweight, under-active men. The programme would use technology for monitoring and feedback, and would be customised for its audience.
2. To deliver the programme in fifteen football clubs in the UK, Norway, the Netherlands and Portugal. The programme would be delivered as a randomised control trial (RCT), so that evidence could be gathered about whether or not the programme actually worked.
3. To review and evaluate the programme and its benefits
4. To maximise the likelihood of replication and roll-out of EuroFIT beyond the funded project.

Description of the main S & T results/foregrounds

The EuroFIT project was structured as six main scientific activities (or work-packages (WPs)), each of which contributed to delivering the overall aims of the project:

1. WP1 developed the novel SitFIT device for monitoring physical activity and sedentary behaviour. This device was essential for: (a) delivering the programme and (b) collecting the data that would inform the project team whether or not the programme worked.
2. WP2 created the smartphone app that enabled EuroFIT participants to form teams and to work together to change their behaviour.
3. WP3 used behavioural science, physical activity and dietary research evidence, supported by the SitFIT device and the MatchFIT app, to design a lifestyle programme to be delivered to the participants through the clubs.
4. WP4 created the trial protocol for the RCT, designing the scientific experiment that would enable the team to conclusively show whether or not the programme was effective.
5. WP5 delivered the programme in 15 football clubs, collected and analysed data on physical activity, sedentary time, diet and other markers of health and wellbeing at baseline, post-programme and 12-months after baseline to see if the programme worked.
6. WP6 identified opportunities and strategies to replicate EuroFIT in future, and tested these by rolling out EuroFIT to new clubs during the project.

The six main scientific work-packages were supported by two additional work-packages (one to project management and one dedicated to communicating the project and its results, as well as future planning for project results). The results of each work-package are described in the following sections.

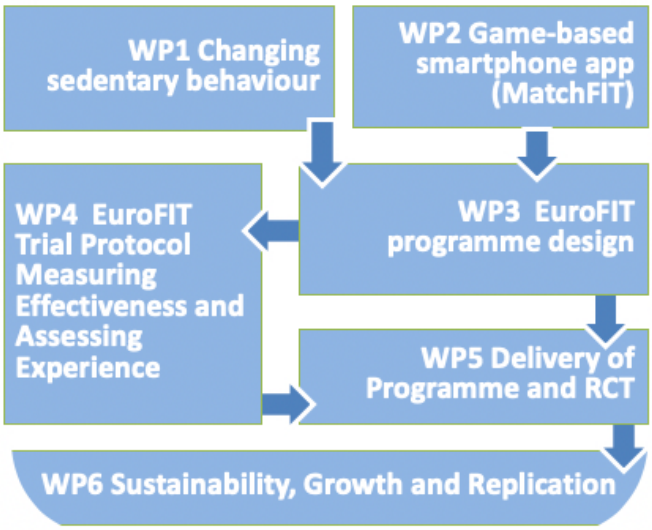
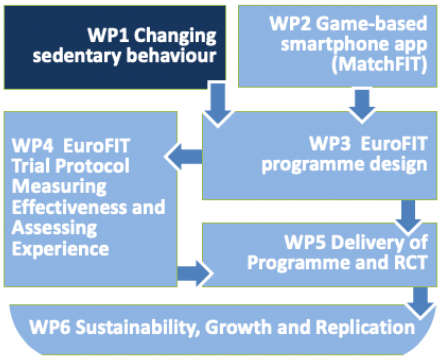


Figure 1: Core work-packages of EuroFIT

WP1 - the SitFIT Device



The aim of WP1 was to identify how best to track sedentary behaviour using a novel device that allows people to self-monitor the time they spend sitting or standing and then make changes to improve it. While pedometers are commonly available and low in cost, they do not track sedentary behaviour (time spent sitting), in which EuroFIT was particularly interested. As well as developing the device, we also wanted to explore the best ways to interact with the user, and to discover what forms of feedback were most effective in behavioural change.

The background research that validated the device and investigated best practice to reduce sedentary time led to peer-reviewed papers (see section 4.2).

The starting point for the SitFIT device was the existing activPAL device, created by project partner PAL Technologies and which is now the gold standard approach to measuring sitting for research purposes. The activPAL device needed to be developed from a thigh-worn closed device to a pocket-worn device capable of monitoring and providing feedback on both activity and sedentary behaviour. The device went through several iterations, including versions with a screen, with different button configurations, different screen layouts and different data collection models. We also explored different ways to wear the device – carried in a pocket, attached to the thigh, clipped to clothing, etc. A series of pilots and mini-trials were carried out, and we concluded that the pocket was the best way to attach the device to the user. The device was calibrated in a series of tests and studies, to verify the quality of data collected. The calibration and validation was published (see section 4.2).

The final version of the SitFIT, branded the 'Activator' by PAL Technologies, has no screen, but uses a paired smartphone as the main user interface, plus haptic vibrations. This has advantages in terms of durability, battery life, and cost of manufacture and support.

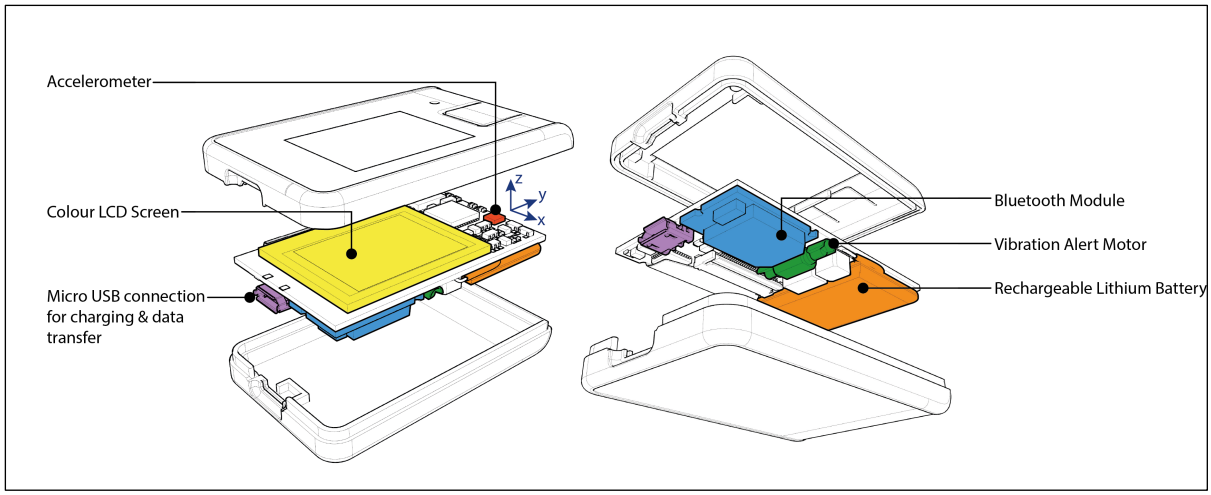


Figure 2:The SitFIT could be used alone, with a PC connection or a smartphone via Bluetooth and provided non-visual self-monitoring via vibrations.

Data collected from SitFITs is very detailed and granular, and allows in-depth analysis of the periods of activity and sedentary behaviour of the user.

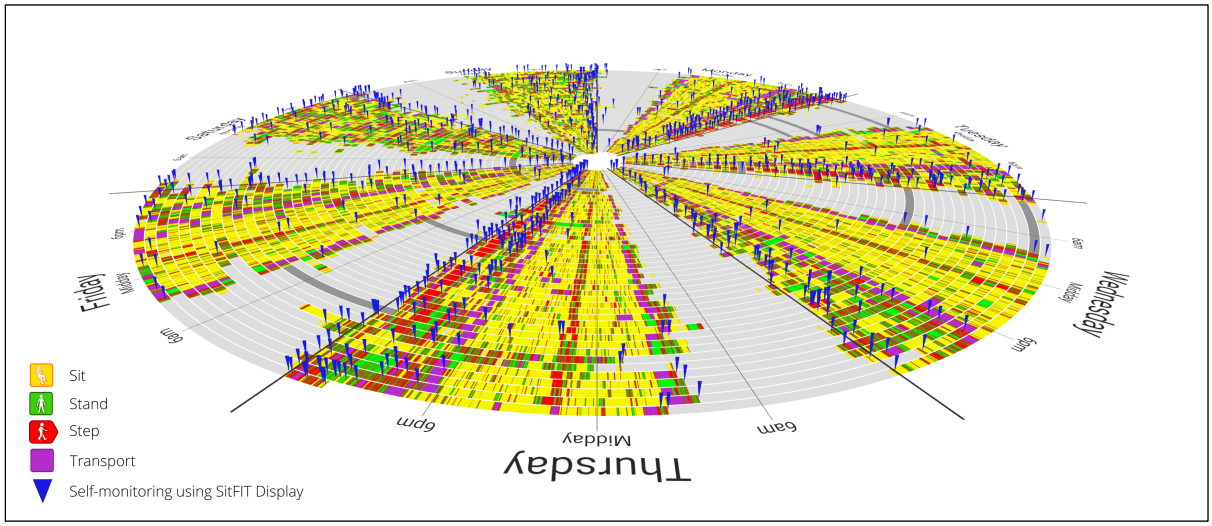
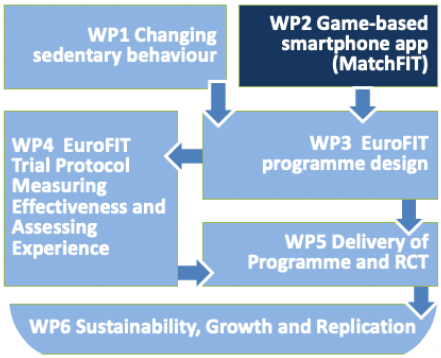


Figure 3: An eleven month recording downloaded from a participant's SitFIT. The blue flags indicate self-monitoring events..

Since the device itself is unlikely to trigger a change in behaviour, we also developed a behaviour change programme to increase physical activity and reduce sedentary time as part of WP1. The research began with a systematic review of best practice in reducing sedentary time, which found that lifestyle change programmes that incorporated a range of behaviours were best bets. We also did a small pilot trial to assess the potential to increase time spent standing, as well as physical activity. The end result was incorporated into the development of the EuroFIT programme itself, gradually building up time spent walking and standing over a period of weeks, self-monitored using a simplified version of the SitFIT.

WP2 - the MatchFIT App



The aim of WP2 was to develop, deploy and evaluate a smart-phone app that enabled EuroFIT participants to join virtual teams, and contribute their personal activity to team-based success. The teams were associated with the different football clubs involved in EuroFIT.

The work started with an existing prototype developed at the University of Glasgow, which then went through a series of versions, with review and inputs from the participants and from the behavioural scientists on the EuroFIT team. In the process, the app evolved from an initial emphasis on competition to a more nuanced approach that emphasised social connection and team spirit, and which used indirect comparison to others using averages, rather than the potentially discouraging head-to-head competition.

MatchFIT is publicly available in English, Portuguese, Dutch and Norwegian; it runs on both Android and iOS. The back-end cloud system is implemented in PHP and MysQL and runs in a Docker environment on AWS.

Uptake of the MatchFIT app was good, with about two-thirds of all EuroFIT participants signing up. MatchFIT was particularly popular in Portugal and Norway.

A series of pilot studies allowed extensive MatchFIT data to be collected and analysed, in order to see whether MatchFIT use led to greater physical activity and/or reduced sedentary behaviour.

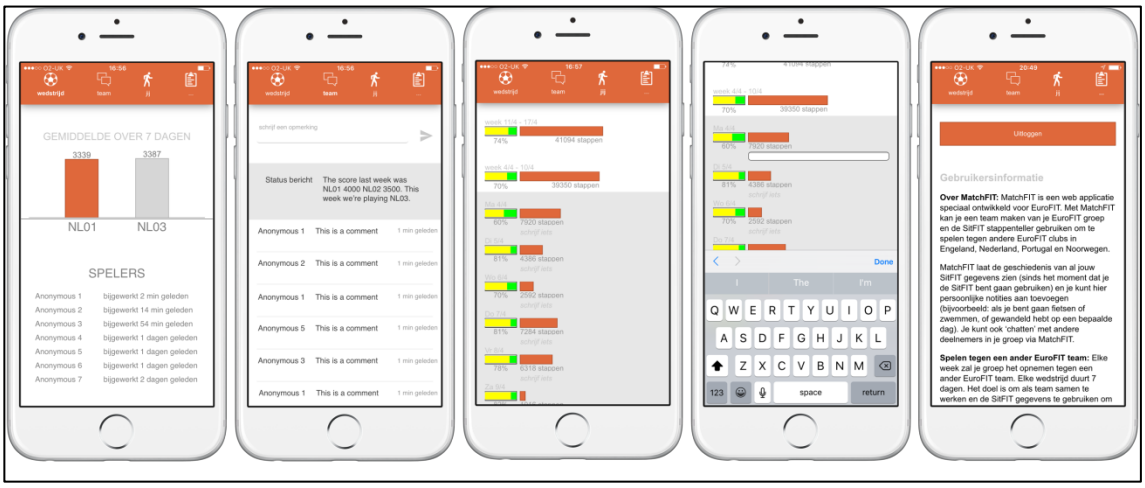


Figure 4: MatchFIT App (iOS Version). From left (1) the match view, (2) the team view, (3) the you view (with a week expanded in grey), (4) the you view (entering a diary note), (5) the settings view

Deployment of an App for Self-Monitoring and Social-Support within a Health Promotion Programme

John Rooksby, Mattias Rost, Doudou Tang, Matthew Chalmers. *University of Glasgow.*

On behalf of the EuroFIT Consortium

The Health Promotion Programme

The European Football Fans in Training (EuroFIT) programme is a healthy living programme being delivered by club community coaches to groups of male football fans in fifteen professional football clubs in four European countries. It is a gender-sensitised programme, designed specifically for men (who typically are underrepresented in healthy lifestyle programmes). The primary focus is on increasing physical activity and decreasing sedentary time.

Evaluation

- A pragmatic, two arm Randomised Controlled Trial.
- 1000 men aged 30-65 with BMI >= 27kg/m2 recruited and individually randomised
- Outcome assessments.
  - Primary: Steps per day and total sedenary time at 12 months after baseline.
  - Secondary: Weight, BMI, self esteem, ...*more*
  - Cost effectiveness.

Delivery

- Recruitment and delivery is via 15 elite European football clubs.
- Men at each club divided into two groups of about 15 people.
- 12, 90-minute, weekly sessions are delivered to each group.
- Classroom discussion combined with physical activity.
- Delivery by coach at football club.

The App

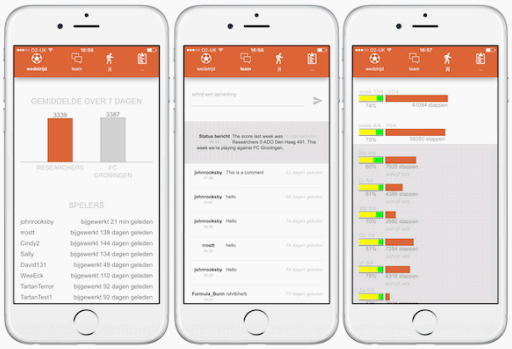
The role of MatchFIT is to enable on-going, socially-supported achievement of personal physical activity goals beyond the programme. The men are not obliged to use it. There is no expectation that men who join the EuroFIT programme will own a computer or smartphone or be technology literate.

Key functionality:

- To display and gamify data from a hardware device given to the men (the SitFIT)
- To provide a communication channel for each group.

Platforms

- Android
- iOS
- Web



MatchFIT app (iOS version)

MatchFIT displays data from the SitFIT

Progress

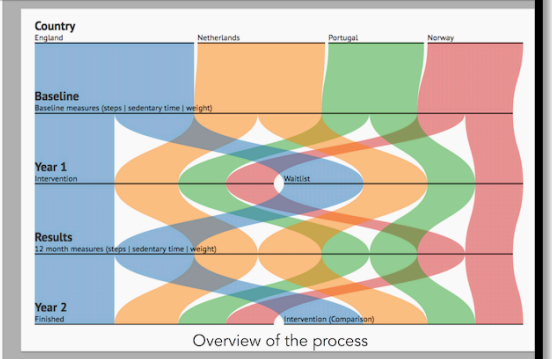
- MatchFIT now deployed at all 15 clubs
- About 70% registration rate (342 registrations)
- Uptake and retention rates mixed between clubs

Next Steps

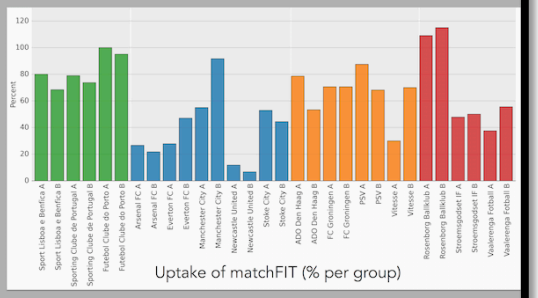
Based upon quantitative and qualitative analysis of the uptake and use of MatchFIT we will redesign and redeploy the app for use by the comparison group in 2017.

Lessons Learned

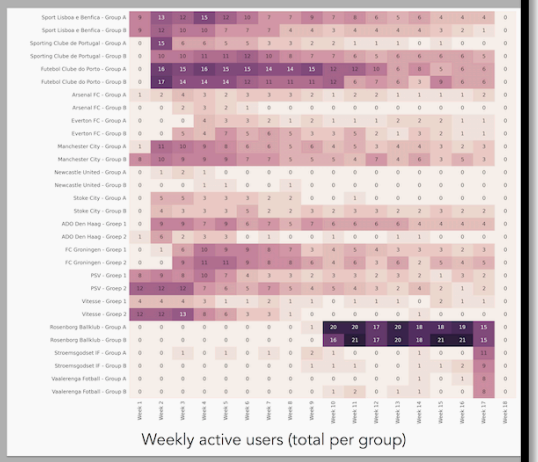
The work we have described has many of the characteristics of "field deployment research" in HCI, but with particular constraints and obligations towards the wider EuroFIT study and with an overt trajectory towards redesign. It is important for us to recognise that the redesign is not just a question of insight from data but will need to involve multiple inputs and orient to multiple ongoing themes. When a technology sits within an intervention, rather than being the central mechanism of delivering and intervention, its ongoing design is enmeshed with that broader context.



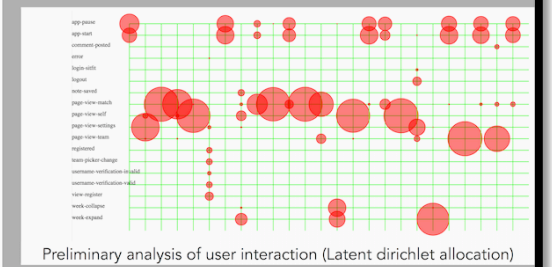
Overview of the process



Uptake of matchFIT (% per group)



Weekly active users (total per group)



Preliminary analysis of user interaction (Latent dirichlet allocation)

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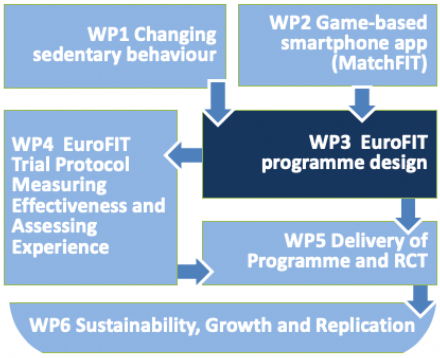
This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 602170.

Figure 5: Example publication from WP2

WP3 - the EuroFIT Programme



The aim of WP3 was to develop the EuroFIT **programme** itself – the optimum combination of technology, group-based learning, exercise and behavioural science that promised the most benefits for our participants, while being both sustainable and replicable. The key aims of the programme are to increase physical activity and reduce sedentary behaviour, with improved diet as a secondary, but still important aim.

The programme is structured as a series of *sessions*, each of which is described in the coaching protocol (the sessions are delivered by club coaches) and supported by information resources, most importantly the coaching manual. Use of the SitFIT by every participant, and access to MatchFIT, were key components of the programme.

The programme was first informed by a scoping review – a survey of the latest research in health promotion (over 7,700 publications initially, which were narrowed down to the 62 most relevant), and the programmes that implement this research. We also considered the reasons for some programmes being effectively and successfully implemented, and some not – so that we could avoid the obstacles that others had encountered.

We also surveyed over 600 UEFA football clubs, to discover what programmes they are already involved in. Over 150 responded, greatly helping in setting a 'baseline' for our own programme. Key findings included that most clubs have at least one person involved in health or physical activity programmes; that all clubs have access to training facilities; that clubs were protective of their 'brand'; that training would be required for all coaches; but that overall the delivery of the EuroFIT programme would be feasible.

This fed into our own programme design of 12 sessions (including participant materials), which involved not just EuroFIT researchers, but also coaches from the successful FFIT programme and coaches from the international EuroFIT clubs. We placed great emphasis on the logic model, ensuring that each session built on the previous ones, and laid the foundations for subsequent sessions. Some localisation was necessary, both to translate the materials themselves and also to make them more appropriate for different cultures, social contexts and dietary norms.

> *To me it's been a new lease of life, I've loved it. I didn't do anything for years, I've got joint problems, I didn't think I'd be able to do anything, and then I started coming to EuroFIT, and I've loved it*
>
> *You get the odd injury and I'll play a few weeks and I'll get it for a few weeks, I've had nothing really bad.*
>
> *I just love it.*

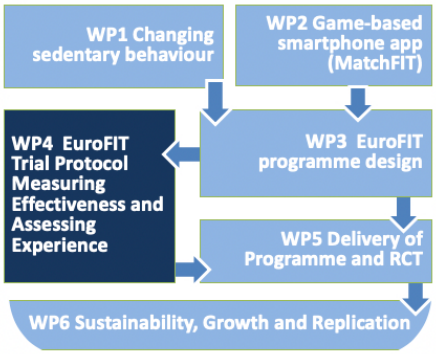
Once the programme development was complete, a substantial pilot was carried out at Everton Football Club in summer 2015. This led to several insights into how the delivery of the programme differed from the intention, and thus to changes in the programme, its materials, and the training given to coaches. A 'train the trainers' workshop took place after the Everton pilot, to finalize and refine training materials and tasks, the training manual was finalised and a final 'train the trainers' programme agreed.

At this point, the programme was fully developed, piloted and refined, and was ready for the main EuroFIT RCT. The programme remains (at project end) a major output of the project as a whole, and the core asset to be rolled out and replicated in the future. Because the programme is at the core of the RCT (see below), the trial element of EuroFIT essentially answered the question, “does this programme work?”. A successful RCT would thus provide hard scientific evidence of a complete programme, combining exercise, sedentary behaviour reduction, and diet, that provides a long-term health benefit.

Figure 6: WP3’s main S&T Results output – the EuroFIT coaching manual

WP4 The EuroFIT Randomised Control Trial Protocol

The aim of WP4 was to design the EuroFIT Trial Protocol – to create an experimental design that would reliably determine if the EuroFIT programme 'worked' – that it led to measurable health benefits for the participants. The protocol had to generate the requisite 'hard data', but it also had to be acceptable to participants (who might otherwise 'drop out' of the trial), be usable in 15 different clubs, in four countries, and take into account that not all possible participants should take part. Importantly, it had to ensure that the results of the trial were due to the programme, and not to other, external factors.



The protocol itself was to have the following main characteristics:

- All participants were to be 30-65 years of age, have self-reported Body Mass Index (BMI) of ≥27 kg/m^2, (classified as overweight), and have consented to study procedures. Men completed a Physical Activity Readiness Questionnaire PLUS and were excluded if they reported a contraindication to moderate intensity physical activity. They were also excluded if they had already done an existing health promotion program at the club, or did not provide at least 4 days of usable activity monitor data (measured using the closed device, the activPAL).
- Men were to be randomly allocated into an intervention group (who received the programme first) and a control group (who did not). After the end of the trial, 12 months later, members of the control group also received the programme.
- The programme consisted of 12 weekly sessions, as defined in WP3.
- The main data to be captured and analysed was objectively measured physical activity and sedentary time, assessed using the activPAL device. This was gathered at baseline (i.e. before randomisation), after the programme (12 weeks after baseline) and at 12 months after baseline. We also measured height, weight, waist circumference, blood pressure and blood samples where acceptable to the participant. These objective data were supplemented with a wide range of self-reported data including diet, wellbeing, vitality, general health and quality of life. The entire protocol was to be subject to a process evaluation, so that opportunities for improving the process could be identified and acted upon and our logic model tested.

"The programme has been a challenge and it has helped me focus on my diet and fitness. It has been all about taking small steps because quite often by taking too much on, there is a tendency to give up after a few weeks.

"The [EuroFIT] programme was super and the staff at Blackburn Rovers Community Trust worked really hard to make sure the sessions were fun. We had a wide range of people continuously attending and it has helped not only change people's lives but add a few years on to their lives."

Having developed the protocol

(to be utilised in WP5, see next section), it was pilot-tested and processes for harmonising and quality assurance of the data were agreed.

A first draft of the protocol was developed by VUmc, building on the protocol from the FFIT programme, while adding SitFIT, MatchFIT and other EuroFIT-specific elements. Numerous details were worked out in workshops and meetings, and the standard operating procedures (SOPs) for the trial were agreed across the team.

This protocol was tested in a 'pilot study', at five clubs in four countries (57 participants), to ensure that it was indeed workable, before the main trial could take place. This led to some reworking of the inclusion criteria (self-reported physical activity measures were not found to be valid for inclusion); BMI>27 was the main criterion used thereafter. Outcome measures were finalised and harmonised after the feasibility study. The protocol was subsequently published in BMC Public Health. The trial was registered with ISRCTN and ethical approval was secured in each country for the conduct of the trial.

The protocol was subsequently published in BMC Public Health.

van Nassau *et al. BMC Public Health* (2016) 16:598
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BMC Public Health

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Study protocol of European Fans in Training (EuroFIT): a four-country randomised controlled trial of a lifestyle program for men delivered in elite football clubs

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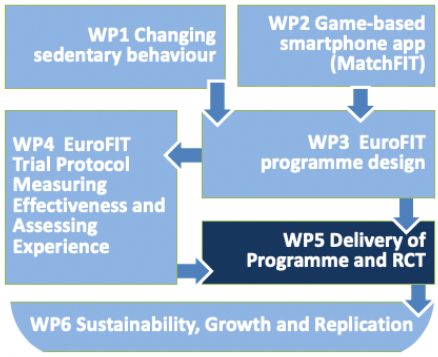
The process evaluation was designed, following the pilot study.

Having created, pilot-tested and refined the protocol, and secured all necessary authorisations, we were now (end of WP4) ready to run the trial, verify whether the EuroFIT programme did in fact deliver the anticipated benefits, and follow this with a process evaluation.

Publication process protocol article

In July 18 2017, the article describing the process evaluation was published online by the journal *Trials*. *Trials* is an open access journal, allowing free access to all researchers, professionals and policy makers.

WP5 Executing the EuroFIT RCT



The aim of WP5 of EuroFIT was to actually carry out the trial, using the programme developed in WP3 and the protocols developed in WP4. This work package further aimed to statistically analyse the data and to draw conclusions as to the efficacy of the programme in achieving health improvements, as well as the cost-effectiveness of the trial.

A Trial Steering Committee and Data Monitoring Committee were put in place to independently oversee the trial. The online database system for data collection was established and access granted to each national trial team.

Recruitment to the programme was led by the clubs, and used email shots to fans, local press, social media, match-day recruitment and other approaches. Enrolment involved two sessions, so that participants had the opportunity to collect (or fail to collect) activPAL data (a key inclusion criterion). Participants were then randomised as per the WP4 protocol. Participants were measured at baseline, at the end of the 3-month programme, and 12 months after the programme ended, again as defined in the protocol. Where participants could not attend in-stadium, home visits were organised. While labour-intensive, this meant that very comprehensive data was collected. Data was aggregated and cleaned (obvious errors removed) using the data collection portal.

The programme was delivered in each of the 15 clubs, by coaches trained by the EuroFIT team, using materials developed in WP3. Sample sessions were attended in each country by EuroFIT researchers, to assess compliance with the protocol and to inform the future process evaluation.

Attendance levels were high throughout the programme.

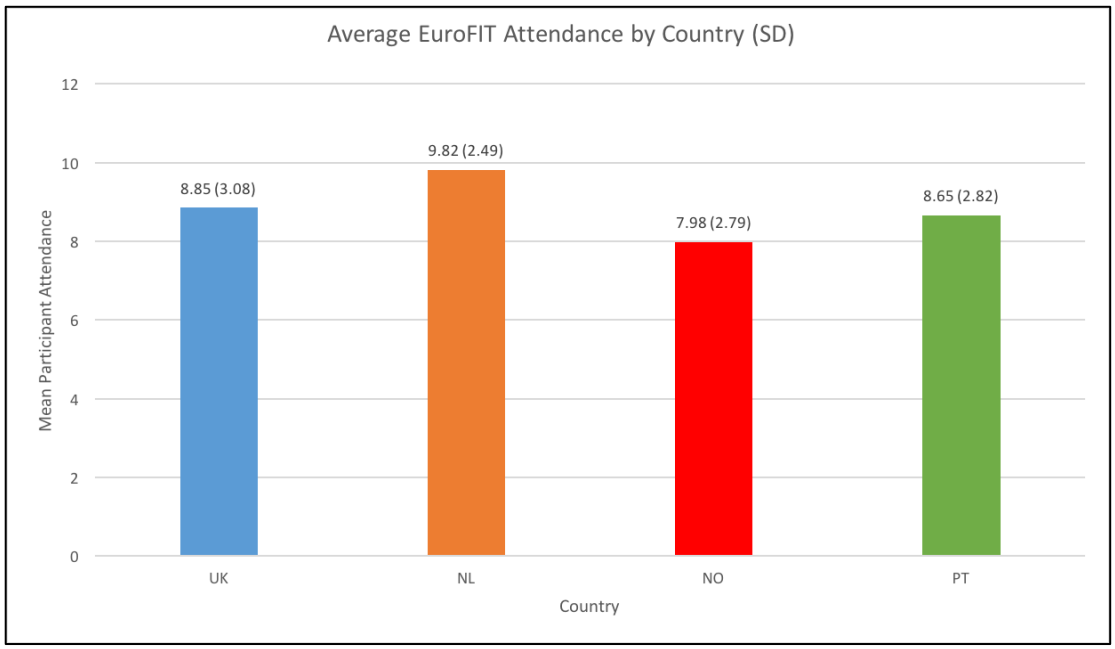


Figure 7: Mean sessions of the EuroFIT programme attended (from 12 possible) by Country (SD)

At the 12-month measurement, measurements included a strong emphasis was placed on how much the participants continued to change their behaviour, after the EuroFIT programme sessions were complete.

The potential of EuroFIT to meet the needs of other groups, particularly women's groups, was also explored in this work-package. The results encourage further investigation into gender-sensitised programmes such as EuroFIT.

The data collected from the trial was statistically analysed in detail, and the main 'results' paper for EuroFIT was prepared, and has been accepted for publication in the journal PLOS Medicine.

"Everybody was out of breath the first time we played walking football. The last time everybody was saying they could have played for another half an hour. The improved fitness was visible."

"My biggest success in these 12 weeks is that my medication is gone down. I am diabetic and use three tablets a day plus one additional tablet. I don't have to take that additional tablet anymore.''

''At the market I always bought candy for the children. Every week this candy can was empty. I always blamed my children. After I started EuroFIT one of my goals was not to eat candy anymore. I experienced the candy can remained full. I realized that I was eating the candy from the can, not my children.''

''I really liked it, the concept, the structure, everything was super. I really mean it. It worked. I tried so many times to lose weight. I thought, if this does not work than I don't know what would have. It turned out to be really easy. Somehow, something happened. Everybody is telling that, even those who had small effects. I really liked that. Everything we spoke about, were fine-tuning things. It were no major changes, but small improvements. If you do this and that, you know. The basic [of the EuroFIT program] is fantastic. Just brilliant''

Results of the EuroFIT Randomised Control Trial

The key results from the trial were that:

- The EuroFIT programme led to a significant increase in daily step count of 678 steps/day (97.5% Confidence Intervals (CI) 309 to 1048) 12 months after the start of the programme. The analysis took into account baseline differences between participants and applied equally to all participants, regardless of age, marital status, socio-economic status, club, country or BMI.
- The programme did not lead to any significant difference in sedentary time. Taking into account baseline differences the mean difference in sedentary time at 12 months was -1.6 minutes/day (97.5% (CI) -14.3 to 11.0; p=0.77), This may have been because the message to both be more physically active and to stand up more got confused, because standing more is not yet an acceptable public health message or because sitting is so ingrained in our culture that it is hard to change.
- The programme led to a significant decrease in bodyweight of 2.4kg, (95% CI -3·1, -1·7); 12 months after the start of the programme. The greatest effects were seen on those participants with the highest BMI at the start of the programme.
- The programme also improved self-reported diet, well-being, self-esteem and vitality, but had no effect on quality of life at 12 months.
- The within trial analysis of cost-effectiveness showed that it was unlikely to be cost-effective in the short-term, mainly because quality of life was already high at the beginning of the trial. However, long-term cost effectiveness analysis, modelled through EuroFIT's potential effect on colorectal cancer, CVD, depression, stroke, and type 2 diabetes, showed 90% likelihood it would be cost-effective at €10,000 per Quality Adjusted Life Year.

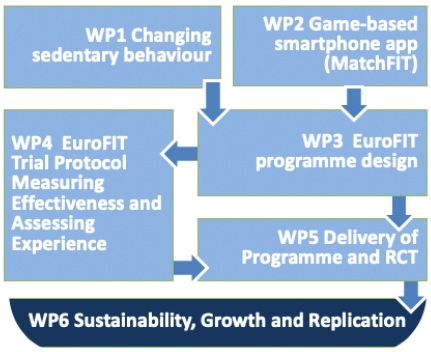
While the results in terms of sedentary behaviour are disappointing, the results for physical activity, bodyweight and BMI, and wellbeing are very positive. The EuroFIT programme has been scientifically demonstrated to increase physical activity and reduce weight. It does so in a population which is difficult to reach, which does not typically engage in health-related interventions or programmes, but which makes up a substantial part of the population. The long-term cost effectiveness analysis shows that it is likely to be a good investment in the long term.

The process evaluation showed that the programme was delivered with fidelity and largely worked as expected. It also showed that men liked the programme very much, appreciated the support of the club, and that some found it life-changing.

Taster programmes offered to women went down well. We concluded that there is an appetite for club-based programmes delivered to women in Europe.

EuroFIT contributes to the evidence base that shows that attracting men to lifestyle change through their allegiance to football is a powerful approach to public health. The EuroFIT programme is ready for roll-out across Europe.

WP6 Replication of EuroFIT



While a successful and informative trial is an important part the EuroFIT project, the overall value is limited unless the project can be copied in other football clubs. The EU-funded project enables the concept to be developed and trialled, but the end result must be valuable enough for clubs, leagues and other funders to pay the costs (coach time, participant handouts and other resources, etc.) that come with delivering the programme.

The aim of WP6 was to assess *'how feasible it is to replicate EuroFIT in other football clubs, when these clubs do not receive EU support for delivering the programme?'*. It also sought to identify the causes for success or failure – *'what can potentially make the programme a success in one club, but not in another?'* Finally, WP6 aimed to define the best implementation strategies for clubs to follow, to maximise the likelihood of success.

It is important to note that the EuroFIT programme was developed and tested as a package. The results of the trial related to the whole package, not to specific elements. This means that, any organisation that wishes to replicate the EuroFIT programme must roll out the entire package, adding, changing or removing nothing to be confident that: (a) it follows best practice, (b) participants will gain the same benefits, (c) it avoids any possible causes of harm to participants, and (d) it reflects the best scientific research.

The WP6 activities began by exploring the experiences of stakeholders, clubs and participants within the project RCT, to discover the facilitators and barriers that influenced the impact and delivery of the programme. Then, the same was done for new clubs that might consider delivering EuroFIT and relevant stakeholders within the context of these clubs. Making use of theory and evidence, implementation strategies were matched to the facilitators and barriers, and operationalized in implementation activities and materials.

In a pilot implementation study, the proposed implementation plans were tested and evaluated in all four countries.

The comprehensive set of materials for new clubs was developed, including

- Online access to the EuroFIT programme materials (the coach manual and supporting resources);
- Guidance for clubs on what kinds of competences coaches need to deliver EuroFIT;
- Information on how to organize funding and have their coaches trained;
- A club readiness tool : giving clubs insight into the actual situation at their club in relation to the set up and start of the programme, identifying and discussing club specific barriers or facilitators (e.g. availability of rooms for theoretical and exercise sessions), and providing them with solutions for increasing the chances of a successful delivery;
- Activator instructions, a MatchFIT help page, procedures for technical assistance and a MatchFIT demo.

Figure 8: EuroFIT Resources available online for coaches

An implementation pilot was carried out, with these new clubs rolling out EuroFIT, and their experience analysed. A total of six clubs took part in this pilot. The EuroFIT consortium delivered the training during this pilot (in the future, Healthy Stadia will lead a consortium of trained trainers, using our train the trainers materials, to new football associated and clubs); the EuroFIT team also acted as quality assurance and review actors (a role that will be played, in the future, by the EuroFIT licensing agency (see below)).

Err, the best effect it had on me, I was suffering really bad from depression at the end of last year so…and I wasn't getting out the house and I wasn't doing anything…

…and it gave me something to do and head towards, like.

…and now we've started playing football every week and stuff, like, so it's good…

…and we've sort of made friends and all that, haven't we? So it has been really positive for me.

Overall, it is clear that EuroFIT can be rolled out in new clubs. However, sustainable funding will be an important precondition. Also, an amount of work for clubs and coaches is involved, and a EuroFIT licensing agency will be necessary to guarantee quality assurance and fidelity monitoring. Some investment is necessary, either by the club, or by an external agency (e.g. a government health agency or a charity). While the EuroFIT research outputs, including the coach manual, are available without charge, the EuroFIT programme is not free to deliver.

WP7 Communication, Dissemination, Exploitation and Future Planning

Communication of the project and its results, and planning for the future of the EuroFIT programme, are the dual aims of WP7.

Communication includes the creation and maintenance of both international and national websites and social media presence, as well as mass media coverage, academic workshops and other events, journal publications, etc.

The international project website (http://eurofitfp7.eu/) was established in the opening months of the project, along with associated social media accounts. The attractive mix of football, health and science immediately meant that EuroFIT received a great deal more publicity than most research projects; the active support of fifteen elite football clubs increased the level of interest significantly. Local websites were also developed, in national languages facilitating communication and interaction within countries (for participants, clubs, stakeholders journalists), both during trial implementation and roll-out (e.g. Portuguese website http://www.eurofit.pt/).

The EuroFIT team presented at public health and exercise conferences from very early on, with several conference presentations in the first 18 months, as well as a journal publication in the British Journal of Sports Medicine. This initial success was continued throughout the project, with dozens of presentations and journal publications (see later in this report for details). The project also featured on television and radio, in national and international newspapers, on numerous online news venues and of course in club and football publications. EuroFIT also reached out to other EU-funded research projects and took part in workshops and best practice activities.

Figure 9: Examples of mass media newspaper coverage

A particular high point was the inclusion of EuroFIT in the National Physical Activity programme of Portugal, following the signing of a protocol between the Portuguese Football Federation and the Portuguese Directorate-General of Health.

Figure 10: Signature of the protocol by the Portuguese Directorate-General for Health and the Portuguese Football Federation

The second part of this work-package, **Exploitation**, has focused on how best to manage the value of EuroFIT into the **future**. As noted above, the key output of EuroFIT is a scientifically-informed, RCT-tested programme of learning behaviour change techniques, physical activity, information on sedentary time, physical activity and diet, real-time self-monitoring and feedback all supported by state of the art behavioural scientific evidence. Most importantly, the coaches that deliver the programme are well-trained and able to support a facilitative, enjoyable, motivational environment for participants. This complex package was the subject of the EuroFIT RCT, and the project results relate to the programme as a complete package. There is, however, a real risk that the elements of the package could be taken apart, and 'cherry picked', with new clubs or other possible users deciding to use, for example, just the exercise element without the real-time self-monitoring or support for behaviour change. Were this to occur, the user could have no confidence whatsoever that the results would be similar to EuroFIT – this partial programme would not be evidence-based. The EuroFIT consortium is concerned to ensure that any such partial programme should not be considered 'EuroFIT' and that the scientific integrity and evidence-based nature of the EuroFIT 'package' be protected.

At the same time, EuroFIT was carried out using public money, by a consortium that is primarily academic in nature. We are committed to making the results of the project available for re-use and further research, without any intention of making a profit. There is

no question of EuroFIT being free to deliver; professional coaching time is involved, while the technology for real-time self-monitoring must be purchased. Certification and quality assurance are essential, for new clubs to be sure that they are in fact delivering EuroFIT correctly, and for the EuroFIT team to be confident that the programme's integrity is being respected.

To balance the requirement for easy replication with the need for integrity and quality, we have developed a licensing model for the EuroFIT programme which allows its use without fee, but which commits the licensee to maintaining the integrity of the project by using EuroFIT-approved coaches and self-monitoring technology, and to periodic (paid) quality assurance by the EuroFIT management agency. To go with the license, we have established a management framework that includes hands-on license administration, as well as resources for certification.

Impact, Implications, Dissemination and Exploitation

A difficult audience: Middle-aged men typically do not engage with lifestyle programmes for improved health. While women are much more likely to join slimming groups and exercise classes, men tend to feel embarrassment when discussing overweight or other health issues. This does not mean that the men don't care about their health, but they lack a social environment in which to feel comfortable discussing their health, their diet, and what they can do about these issues.

An attractive proposition: EuroFIT increases the comfort level of football fans with overweight, by offering a programme that is exclusively for them. 'Men like us' is a key factor – everyone in the programme is a man with weight issues, who wants to address them. Critically, everyone in the programme is a fan of football – this offers a common ground for conversation and interaction, and one in which the men are profoundly comfortable.

'**All together'**: Having joined the programme, the men then experience a high-quality lifestyle intervention, in a football environment. This experience is a collective one – nobody is singled out, and everybody exerts themselves together, hears the same advice about behaviour change, they learn from one another and share the same banter and jokes. The combination of a programme that addresses a serious goal, with a light-hearted 'all men together' environment, adds to the enjoyment of the programme and encourages men to complete the programme.

Theory-informed from the start: A unique aspect of EuroFIT is that, from the start, we built in evidence-based strategies from contemporary motivation theory to help men to change their behaviour. Interventions in most published health research do not deliberately include motivational strategies into the intervention. If they discuss motivation at all, it is usually post-hoc and they discuss what may have occurred. Such interventions can only describe what and how changes take place, not why. However, EuroFIT built in mediating constructs from Self-Determination and Achievement Goal motivation theories as part of our research design, to assist in the explanation of why sustained behaviour change occurred for the men in EuroFIT.

Benefits to Football

For **fans**, the results of the RCT show that EuroFIT leads to long-term health benefits in terms of physical activity, BMI and other metrics. These results are at the population level, and are averaged across the 1,000+ men who took part. For some of these individuals, EuroFIT had little benefit – they were not inspired by their club environment, or they disliked the exercise and the dietary advice, they found it difficult to change their lifestyle habits, or some other factor held them back.

For many other individuals, EuroFIT was life-changing, leading to healthier habits, weight loss, greater physical activity, improved self-esteem and vitality. Some of their comments are quoted throughout this report.

While EuroFIT did not work for everyone, it did offer an opportunity for men to work on common challenges together, in an environment in which they felt comfortable, and where they could take their health seriously, in confidence of support and camaraderie. Few healthcare programmes work for everyone who takes them and EuroFIT is no different. Crucially though, at the population level we are more likely to see a benefit for men involved with EuroFIT than to not see one. The combination of football and health removed a key barrier for many men in engaging with their overweight, their lack of exercise and their poor diets. Further analysis of the EuroFIT results will identify which particular aspects of EuroFIT were most effective, and for whom.

EuroFIT reached over 1,100 football fans. These are just a tiny sample of the many millions of fans across Europe and beyond (about 30 million fans attend matches regularly each week, in Europe). We are currently working with UEFA to facilitate access to EuroFIT for hundreds of clubs and millions of fans across Europe. This would offer the only evidence-based, scientifically-proven health programme for football fans that has been shown to work across Europe, and would improve the health of this challenging population.

For **football clubs**, EuroFIT offers a scientifically-proven programme, developed using the most up to date research from several complementary disciplines – public health, exercise, behavioural science, economics, and more. While there are several other programmes already in use in football clubs, there is no data about their effectiveness, nor about any negative impacts they may have on participant health. The only other programme with similar scientific credentials and rigorous evidence base is Football Fans in Training (FFIT), the EuroFIT precursor developed in Scotland. Clubs that adopt EuroFIT thus can be confident that they are deploying a proven, effective programme, rather than hoping that some other programme will improve fan health. The evidence-based nature of EuroFIT makes it a better option for clubs; it is for this reason that UEFA is currently in discussions with EuroFIT about how best to facilitate its take-up across Europe.

Beyond Football

Football is not the only environment where large numbers of people feel a connection to a cause. Churches and large companies, for example, have a similar attribute, as a shared faith or as loyalty to the company. And football is certainly not unique in its populations of individuals whose health could be improved by more physical activity, better diet and less sedentary behaviour.

EuroFIT has shown what can be achieved when such a shared connection is used to increase enthusiasm, to overcome barriers to adoption, and to delivering a lifestyle intervention in a way that is supportive and that further builds bonds of shared interest and experience. In

particular, such a connection can be used to reach, encourage and retain populations that typically do not engage in health improvement opportunities.

The EuroFIT coordinator, Sally Wyke, is already working with **churches** in South Africa to explore how they can use the lessons learnt in EuroFIT (and FFIT) to improve the health and wellbeing of their congregations. While many large **companies** already offer a variety of mechanisms to improve employee health (healthy cafeteria options, gym memberships, sports clubs, etc.), these typically lack the scientific 'package' that characterises EuroFIT. There is excellent scope for the development and deployment of better-quality corporate health programmes that build on the lessons learnt in EuroFIT.

Other sports are of course a major opportunity area too. While soccer is perhaps the most high-profile sport in Europe (est. 3.5 billion fans globally[1]), there are many millions of men who follow other team sports that are eminently well suited to adopting the EuroFIT approach. Beyond the EU, global sports such as cricket (2.5 billion fans), field hockey (2 billion fans), baseball (500 million fans), American football and basketball (400 million fans each) all share key characteristics that make them EuroFIT-friendly (large arenas, training facilities, well-established fan bases, team-based sport, local affiliations).

It must be noted that the adaptation of EuroFIT to other contexts is not suggested here. The overall concept of combining loyalty, camaraderie and health has been proven in EuroFIT, and this can be applied elsewhere. But because the evidence base for EuroFIT itself is based on a rigorous scientific study plan (the EuroFIT RCT), it cannot be adapted or reconfigured without losing its evidence base. For a new programme, in a new sport, a new study would be required to prove its effectiveness. Similarly, an intervention that used only parts of EuroFIT (e.g. the group exercise without the dietary advice) could not rely on the EuroFIT evidence base.

Beyond the Individual

EuroFIT has focused very much on the individual football fan. However, the majority of these men are married or in a relationship, have children and have friends who share similar lifestyles. Within the project, we have explored the impact of a 'newly healthy' husband, partner or father on wives, partners and children. In many cases, the diet and exercise habits of the entire household have changed. While we lack sufficient data points to draw any conclusions, we have evidence from 12-month focus group with trial participants and also testimonials from focus groups with their wife's/partners/family that habits have improved for other household members.

> *I feel like I have cracked the code (found a way to exercise persistently). . . Because that is exactly what I have not done in 20 years, not to overestimate. This arrangement has cracked the code. And then it is not so hard anymore.*
>
> *. . you got results quite quickly, a couple of kilos, . . . and we haven't had the tools for that earlier. And now the group, the coaches, the program have given us tools to keep the momentum going*

[1] Accurate figures for numbers of fans worldwide are not available. These estimates from topendsports.com

.. you take it out of your pocket and look at it all the time: "No, now it is not enough walking time, okay, upright time" and then it is up and walk and stand, and then you sort of get to your target. So it is clear that [it] has been a motivational factor de lux.

. . if you just look at the pedometer and see that you have passed 10 000 (steps) which is one goal, at least on my part, then I feel "Yes, this has been a great day, really".

"Besides my individual change, I´ve started to help others in their process of change! People now turn to me as an expert, family and friends request me to go with them shopping for food, to help them with planning and reading food labels (...) my neighbours, who saw me, day after day, going for walks and runs, started to show up to go with me, and challenged me to organize more structured activities!"

Impact

The anticipated benefits and impact of the EuroFIT project were as follows

1. To explore and understand how actors from across society could work together to address a difficult problem, using **social innovation**.
2. To stimulate and maintain **behaviour change** that would benefit the participants
3. To expand **theory and evidence on behavioural change**, including the role that self-monitoring and technology can play
4. To **empower** participants to take control of their own health
5. To **better understand how to reach socially disadvantaged** groups, and implement healthcare interventions that work for them.
6. To suggest and explore **cost-effective** ways to improve public health.
7. To gather substantial information about actual patterns of **sedentary behaviour** – a behaviour that is increasingly seen as important, but for which substantial data is lacking.

Overall, the project was successful in reaching these impact aims, as outlined here.

- Social innovation occurs when individuals or organisations from several different parts of society work together to address a difficult challenge. The challenge most suited to social innovation are those which are not feasible for just one sector to address, and which need capabilities that are only available elsewhere. In the case of EuroFIT, the key challenge was recruiting men into the programme, and motivating them to complete it. To achieve this, the public health and wellbeing researchers enlisted the assistance of the football clubs, who provided the essential ingredient for recruiting the men – their loyalty to their club. The relationship with the clubs was facilitated by including the Healthy Stadia organisation, to support the four national research teams (GU, VUmc, FMH and NSSS) in their interactions with clubs and subsequently with UEFA. In order to develop a programme that would actually change behaviour, the team enlisted **behavioural** specialists, selected the ideal **technology** platform, added '**game-playing'**, and worked closely with coaches in the clubs. To maximise the benefit of the programme, the team also included diet experts and physical activity researchers. And, to make the resulting programme ready for larger-scale roll-out, the EuroFIT team also included **implementation scientists**.

- Behavioural change is very challenging. Maintaining that change over an extended period is more difficult still – people naturally return to habitual behaviours, or those which are encouraged by their social, family and other environments. In EuroFIT, we triggered behavioural change by delivering a programme of physical activity and healthy lifestyle changes in a way that was personally meaningful and challenging to our participants. This did lead, in the majority of participants, to increased levels of activity, reduced BMI and overall better health. However, these changes, normally are to be expected during the delivery of the programme, because enthusiasm is high, there are shared sessions that the individual wants to impress, there is extensive camaraderie and mutual support, etc. However, the main EuroFIT messages and intervention strategies were not framed for the short term, instead the program was designed to help participants develop long lasting self-regulatory strategies and intrinsic motivation. A major success for EuroFIT is that the majority of

our participants maintained their healthier behaviours when re-screened twelve months after they had completed the programme.

- From a **behavioural scientific** point of view, EuroFIT was very interesting as an experiment and a demonstration of what can be achieved in the real world, using social innovation, and applying the theoretical principles of behavioural science.
  - Most Interventions reported (in the research literature) as theory-based often use post hoc arguments and do not describe the strategies and behavior change techniques used, nor measure the constructs that predict behavior. Thus, one cannot infer the influence of the theories on the perceived effectiveness of the interventions. EuroFIT explicitly used constructs from contemporary motivational and sociologic theories to inform the design of its intervention strategies from the start. Preliminary analyses (manuscript under preparation) showed that the intervention was successful in affecting key theory-driven metrics that demonstrated the efficacy of the constructs built into the intervention: associations between theoretical-constructs matched the expected patterns and were related with the use of self-regulatory strategies (e.g. goal setting, overcoming setbacks) and step count and lifestyle physical activity (active daily choices such us taking the stairs), both in short and longer-term.
  - The use of the SitFIT on a continuous basis, to allow self-monitoring through real-time, accurate feedback to the participants, was expected to encourage participants to modify their behaviour – this is indeed what we observed. Overt competition was expected to lead to lower levels of participation and adherence (for every triumphant winner, there are many disappointed losers); this was indeed what we experienced in the MatchFIT environment, where a less 'head to head' model was found to lead to greater levels of participation and user satisfaction.
  - Overall results are theoretically consistent and provide support for autonomous and mastery regulatory mechanisms as resting within the causal path of long-term physically active lifestyles (i.e. number of steps, active choices). However, the same does not apply for reducing sedentary behaviors. Such type of outcomes may require other type of predictors, less cognitive processing, and more context/background related (for example, environmental nudges may be more important with this regard). Nonetheless, and following one of the main intervention messages (that was- break sedentary time as often as possible) - Behavioral correlates of interrupting sedentary time (i.e. sit to stand transitions) were predicted by motivational variables.

- For the participants themselves, our intended impact was to enable them to take control of their own health. Rather than responding to healthcare warnings from a doctor, or to public health messages, we wanted to enthuse the men by associating the programme with their football club, and by delivering it in an environment that was supportive, made up of 'men like me', and which was enjoyable, interesting and stimulating for the participants. Rather than closely monitoring the participants, we gave them the opportunity and technology to monitor themselves, and to see for themselves the progress they were making, and so to take control and responsibility for their own health behaviours. For the large majority of participants, this strategy was effective – programme completion was very high, satisfaction ratings were very

good, and the men recognised and appreciated the self-management aspects of the programme.

- Given the innovative approach taken by the EuroFIT project, it was important to explore **how cost-effective** such an approach might be. We carried out extensive analysis of the costs, and of the benefits (captured using extensive metrics). The costs of the programme included coaching time, SitFIT hardware and MatchFIT software, handouts and other resources. The benefits were measured in terms of health metrics (physical activity and weight) and quality of life. The analysis considered costs and benefits to everyone, including people and the health system (rather than just the health system). We found EuroFIT was not cost effective in the short-term in related to quality adjusted life years, probably because the measure of quality of life used was not sensitive to change in this relatively healthy group. However EuroFIT was cost-effective in the longer term because it has the potential reduce risk of heart disease, some cancers and mental health problems.
- **Sedentary behaviour** is increasingly recognised as a risk factor in its own right, rather than simply being equivalent to 'not exercising'. We developed a novel hardware device, the SitFIT, which accurately detects the differences between the primary activities of sitting, standing and stepping. Participants wore or carried the SitFIT for extended periods, and used this to self-monitor their physical activity; this led to their increasing their physical activity levels significantly. However, the programme was less successful in changing time spent sitting. This may have been because the message to both be more physically active and to stand up more got confused, because standing more is not yet an established public health message or because sitting is so ingrained in our culture that it is hard to change. The SitFIT technology yielded an unprecedented level of detailed data about this important health-related behaviour. The data collected has been analysed to address the research questions posed by EuroFIT; there is however great potential for further analysis of this unique resource.

Impact at the National Level – Portugal

A particular success for EuroFIT has been the adoption of the EuroFIT programme as a recognised element of the Portuguese national physical activity agenda. In April 2017, representatives of the Portuguese Government Directorate-General for Health and the Portuguese Football Federation signed a formal partnership protocol, placing the EuroFIT programme within the core activities of the national initiative. The event was further supported by the EuroFIT consortium, especially Portuguese partner FMH, and by the World Health Organisation.

Figure 11 Speakers at the Portuguese Partnership Event (see Eurofit Website for more details)

Impact at the International Level – UEFA

EuroFIT has a strong relationship with UEFA, facilitated by our specialist partner Healthy Stadia. This has resulted, for example, in involvement of UEFA at the official EuroFIT Launch Event in Brussels, in October 2018. At the time of preparation of this report, the EuroFIT team was in discussions with UEFA about how best to work together so that leagues and teams that are associated with UEFA could gain access to the full EuroFIT programme, including licensing, certification and quality control. Successful completion of these discussions would be a major impact success for EuroFIT.

Examples of Impact at the Individual Level

While the overall results of EuroFIT are very positive, this does not fully reflect the profound impact and benefit that the programme brought to many of the individual participants. In case after case, the team received feedback that emphasised how EuroFIT had changed participants' lives. This feedback typically came from individuals who would, without EuroFIT, have been most unlikely to find a similarly attractive and effective way to improve their health.

"This was a fabulous experience, that everyone should try."

"The experience was fabulous, it is a very complete project, with important theoretical and practical components. I hope others have the opportunity to attend."

Blackburn Rovers season ticket holder Mike Graham believes in the Community Trust's EuroFIT programme.

"I feel so much healthier, I have continued to lose weight but now I can put my shorts on for the first time in a while," he said.

"I have lost the equivalent to 16 bags of sugar so EuroFIT has certainly worked for me! I saw the programme advertised on Twitter and it appealed to me straight away as I have been a Blackburn Rovers supporter for 54 years.

"The programme has been a challenge and it has helped me focus on my diet and fitness. It has been all about taking small steps because quite often by taking too much on, there is a tendency to give up after a few weeks.

"The [EuroFIT] programme was super and the staff at Blackburn Rovers Community Trust *worked really hard to make sure the sessions were fun. We had a wide range of people continuously attending and it has helped not only change people's lives but add a few years on to their lives."*

P4: To me it's been a new lease of life, I've loved it. I didn't do anything for years, I've got joint problems, I didn't think I'd be able to do anything, and then I started coming to EuroFIT, and I've loved it You get the odd injury and I'll play a few weeks and I'll get it for a few weeks, I've had nothing really bad. I just love it. I go on a Monday night when I can, and I also go on a Thursday in the dome on a Thursday afternoon, they do over fifties [walking football] in the dome at [the club], and that's very good, they get up to 30 players a week, it's £2.50 for an hour and a half of walking football, it's really good.

P7: I think the whole thing about EuroFIT, it's been for me a…for all of us I suppose, a springboard, a kick off or kick up the backside or whatever you want to call it just to get us motivated to start doing something, whether it be food or physical exercise. And for me the big worry has been the physical exercise. I never thought I'd be playing football at 63 again.

P2: […] But, in saying that, as well, to this day, even now, there's still, they haven't just dropped us like a stone when it's finished, they've carried on. We see them all the time, we're in touch with them by email, and there's always little things going on, little tournaments - are you coming to football this week, the walking football on a Sunday, encouraging us to come along to that, all the time. You know, don't lose touch lads, keep it going, running club if you need it, there's gyms, we can organise gyms, cheap gym membership for you.

P7: Err, the best effect it had on me, I was suffering really bad from depression at the end of last year so…and I wasn't getting out the house and I wasn't doing anything…

I: Yeah.

P7: …and it gave me something to do and head towards, like.

P6: Mm.

P7: …and now we've started playing football every week and stuff, like, so it's good…

I: Between you?

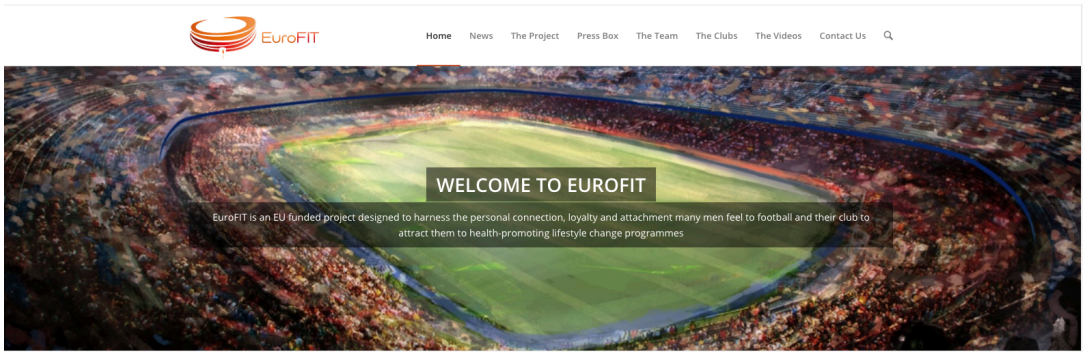
P7: …and we've sort of made friends and all that, haven't we? So it has been really positive for me.

"After the program we committed to maintain the group. The group is very helpful. We motivate each other! Thus, we created "BenFIT" (Benfica+EuroFIT), we rented a pavilion and every week we train and play together. We invite the coaches and other professionals to come as often as possible. (…) We try to have a specialist at least once a month. We designed logos and shirts, I am the responsible for the finances. We try to keep it seriously! We even integrate the new guys (comparison group participants who started to have their intervention"

"I have more self-respect, I see myself differently now. I am an active person. I do things that I usually didn´t (…). Everything feels better, I can breathe normally now. I feel empowered

Website and Contact

The project website can be viewed at www.eurofitfp7.eu



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For information about licensing EuroFIT and implementing it in a new location, please contact the **licensing body**:

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