Inno4Sports
Interreg Europe

European Union
European Regional
Development Fund

Inno4Sports Pilot Action

O1.1

Summary report about data driven innovation workshop

Cluster Sports and Technology
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Table of content

1 Introduction

1.1 The Interreg Europe project Inno4Sports

The Interreg Europe project Inno4Sports brings together five regions (Hajdú-Bihar (HU), Lapland (FI), Lodzkie Region (PL), South Netherlands (NL) and Valencian Region (ES)) that all share the ambition to address a common objective, namely to strengthen the regional innovation ecosystems on sports & vitality based on market chances, social trends and business opportunities. The project started in 2018 and is now in the second phase.

In the first phase the participating regions have learned from each other's approaches, activities and good practises and from there developed regional action plans.
In the second phase of the project, each region is implementing its regional action plan. Besides the implementation of the action plans, 2 extra activities have started within the second phase:

1. 3 Regions (Lapland region, South Netherlands and Valencia region started a pilot action on the use of data in innovation activities for the sports & vitality domains
2. All project partners have adopted an extra activity to exchange Good Practices on how to deal with the challenges and new realities on innovation in sports & vitality that emerged because of the Covid pandemic.

This report describes activities in the pilot action in Phase 2, namely the introduction of the Good Practise of the South Netherlands region on data driven innovation (DDI) as an example on how this approach can stimulate innovation activities in the field of sports and vitality.
It is a deliverable of the pilot action in Phase 2 of the project, but all project partners are invited to read this report, as it might stimulate them to come to new initiatives. In this the focus is on how to use public data to find new innovation opportunities to stimulate citizens to a more active and healthier lifestyle. This creates not only an economical but also societal impact, which is in particular relevant in this post-pandemic area.

1.2 The Good Practise of South Netherlands

In the Inno4sports project, during the Interregional Event combined with Knowledge Capitalisation Seminar in Eindhoven (June 11-13, 2019), the regions Valencia (VLC) and Lapland (LPL) learnt through the presentations on June 12 about the Vitality Living Lab project (co-funded by ERDF South Netherlands Operational Programme, see GP South Netherlands), that the use of public sports data can have a significant impact on the development of sport products and services. Specially inspiring were the talks Vitality Data by Loes van Renswouw; TU Eindhoven; and #040 Beweegt! by Harmen Bijsterbosch, InnoSportLab Sport en Beweeg!, and the Municipality of Eindhoven (Innovation & Vitality in de Genneper Parken: Mikke Leenders, City of Eindhoven.
In these cases, public data amongst other socio geographic parameters (like health status, income, education, but also sports activities and memberships) are connected with activity parameters (derived from e.g. Strava, an app that monitors cycling and running activities) and more infrastructural data (like roads, light paths, etc.). This gives insight in locations where people perform

sportive activities, but also where boundaries are created by roads, bad illuminated paths and other factors that can be influence by (local) governments. As such these combinations of public data give insights for local governments to act upon and is defined as a Good Practise from South Netherlands (SN).

This represents a new approach called sport data driven innovation (DDI) and is seen by Valencia (VLC) and Lapland (LPL) as a driver of innovation and socioeconomic development. The pilot aims at testing this approach in different regional contexts. During the pilot South Netherlands will provide the baseline methodological umbrella, context and support for the use of public data in innovation processes to the pilot.

An important step in this is to transfer the knowledge on the experience in South Netherlands on the use of (public) data and information in the context of developing products and services. This report deals with the transfer of this knowledge.

1.3 Data Driven Innovation approach

This document describes the background of the pilot action and the content of the first workshop in which the Data Driven Innovation approach of South Netherlands was explained to the other partners in the pilot action as a start of the pilot related activities.

Topics are:

- The general description of a pilot action and the pilot action in the Inno4Sports project in particular
- The good practise of South Netherlands where the pilot action is based on
- Examples of the use of public data to develop products and services
- Recommendations in the use of public data in the Data Driven Innovation approach

2 Pilot action

2.1 Definition

Pilot actions are implementation-related activities dedicated to test a new approach:

- usually a transfer of existing practices between partner regions
- or a new initiative jointly designed by the partner regions during phase 1 and jointly implemented in phase 2.

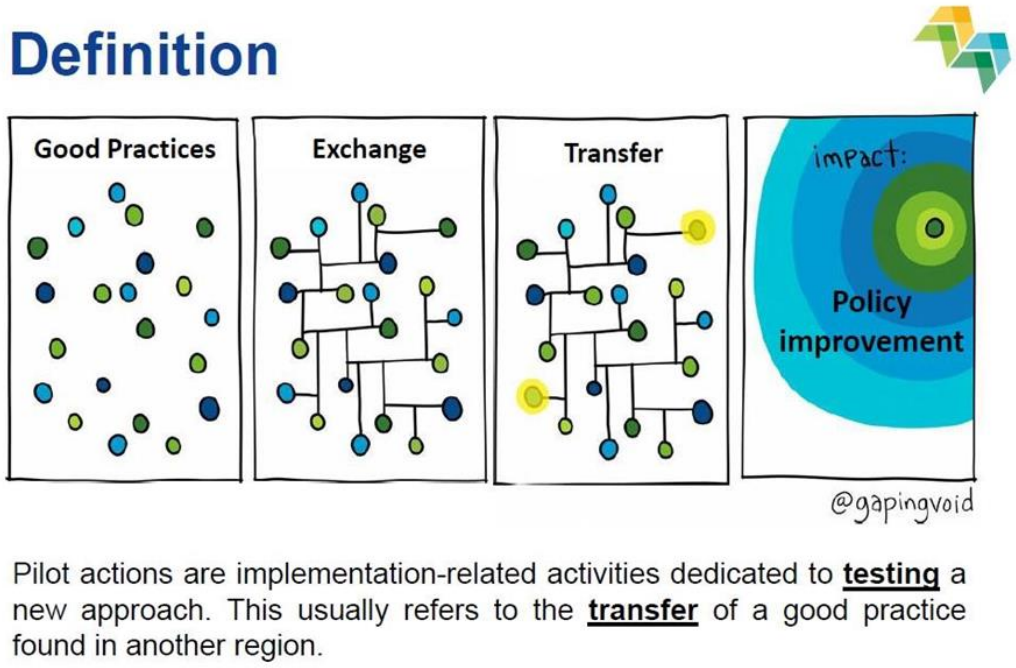


Figure 1 Definition of pilot actions

2.2 The Inno4Sport pilot action

In the Inno4Sport project the pilot action is dedicated to a transition to data driven innovation: using public and personal digital data to develop and assess sports services and products. It is a collaboration between Cluster Sports and Technology (South Netherlands), IBV (Valencia region in Spain) and the Lapland University of Applied Sciences (UAS) (Lapland, Finland).

The aim is to test the application of (public and personal) data driven innovation as a driver of regional socioeconomic development by identifying, validating and accelerating new products and services in sports.

The goal of the pilot action is to apply the latest digital solutions and technology in actions and thus to contribute to a stronger ecosystem collaboration & increase the capacity of (private and public) actors Activities are:

- Map needs & opportunities for data driven innovation in regional context (education, research, innovation)

- Adapt the data driven innovation process from South Netherlands (public data) to Valencia Region (personal data) to the Lapland region (public + personal data) (incl. data gathering tools, GDPR, data analysing tools)
- Engage regional stakeholders in the pilot for a case study and its assessment.
- Make a case study combining personal & public data driven innovation in Valencian & Lapland context.

Roles of the partners are:

- South Netherlands provide the baseline method, context and support for the use of public data in innovation processes to the pilot;

Figure 2 Use of public data in innovation as developed in South Netherlands

- Valencian Region adapt this method to use personal sports related data in the innovation processes;

Figure 3 Personal sports related data in the innovation process in the context of the Valencian region

- Lapland Region use results of Valencian Region and explore potential to use both public and personal data in the Rovaniemi Ounasvaara Winter Sport Hub.

Figure 4 Rovaniemi Ounasvaara Winter Sport Hub

All will integrate the lessons learnt to action steps for policy change. The planning of the activities within the pilot action is depicted in figure 5.

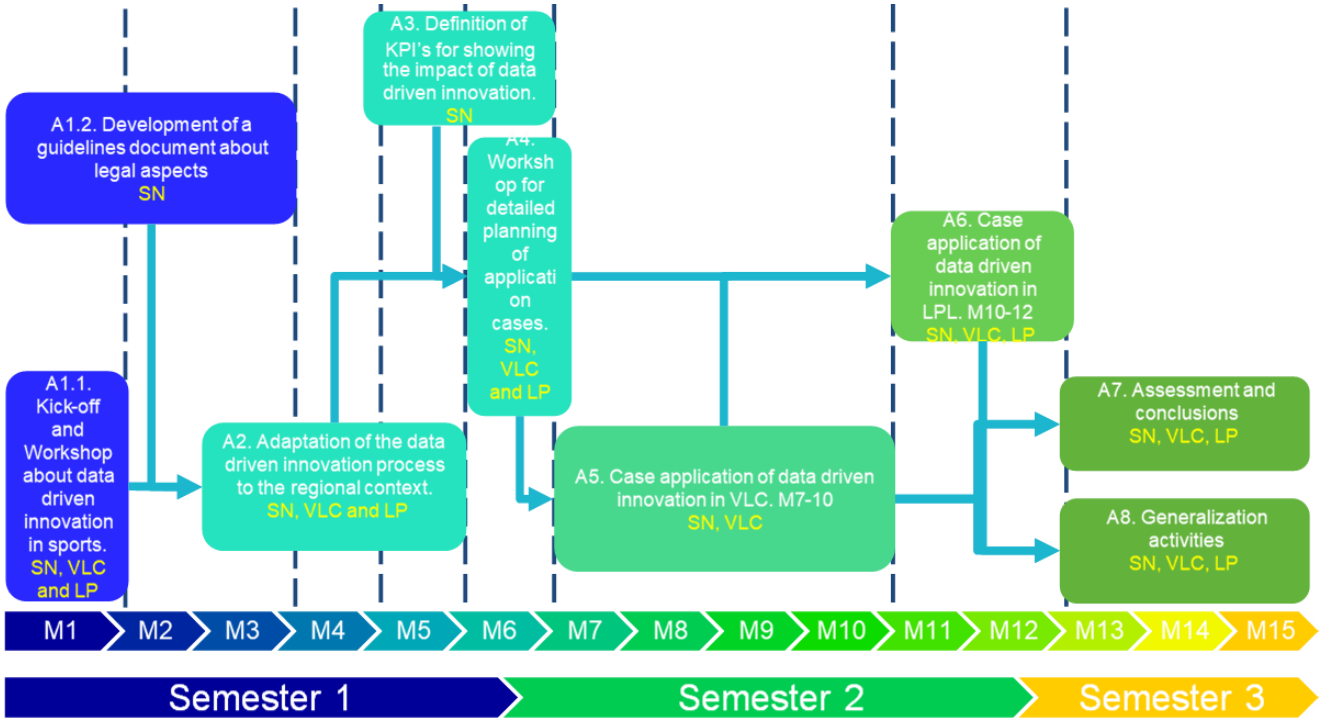


Figure 5 Planning of the pilot action

3 Good Practise South Netherlands

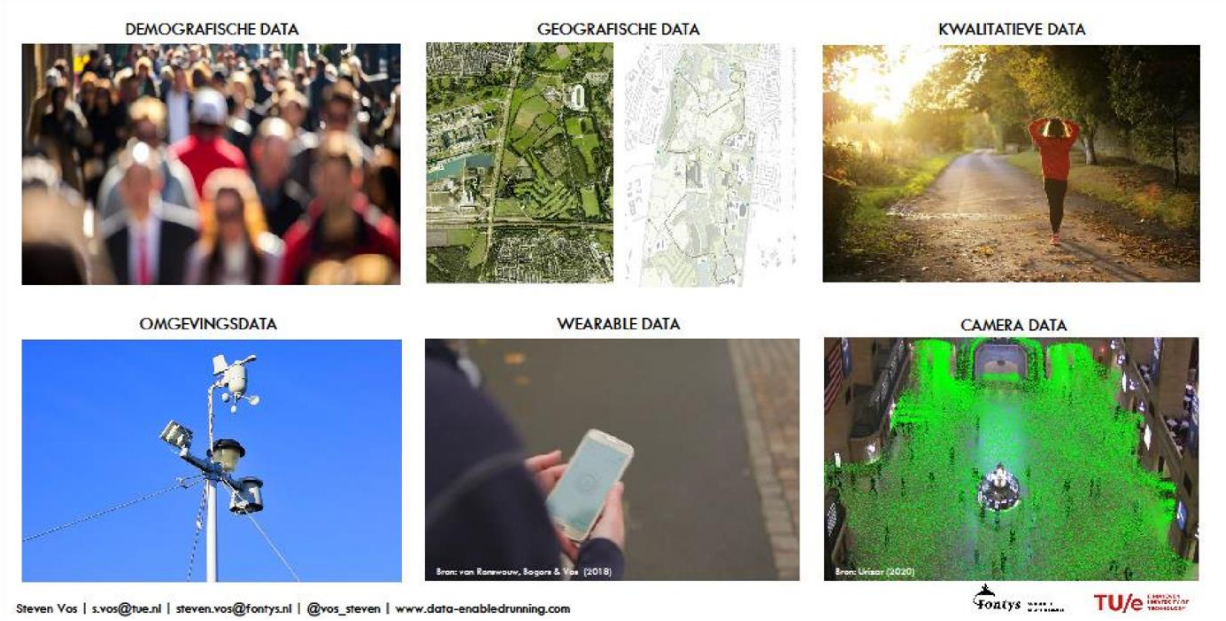
The starting point of the pilot action has been the good practise of South Netherlands on the use of public (sports) data. The use of public sports data has an impact on the development of sport products & services. During the Knowledge exchange event in June 2019 examples were given in presentations:

- Vitality Data by Loes van Renswouw; TU Eindhoven;
- #040 Beweegt! by Harmen Bijsterbosch, InnoSportLab Sport en Beweeg!
- Innovation & Vitality in de Genneper Parken: Mikke Leenders, City of Eindhoven.

3.1 Use of public data

Public data can be distinguished into 3 categories of data:

1. Socio-geographic parameters (like health status, income, education, sports activities & memberships)
2. Activity parameters (monitoring devices)



3. Infrastructural data (like roads, light paths, etc.).

1. Socio-geographic parameters (like health status, income, education, sports activities & memberships)

An example of these public data can be found below, where public available data from the city of Eindhoven can be used to create insights of health and activity behaviour of citizens in the different neighbourhoods in Eindhoven.

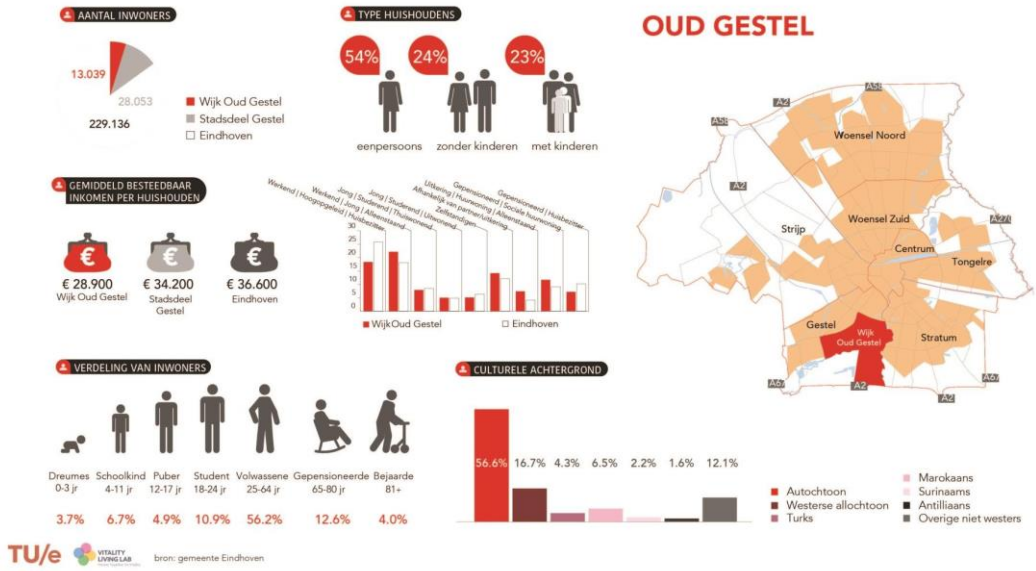


Figure 6 Neighbourhood data of the city of Eindhoven, a combined presentation format developed in the Vitality Living Lab project

2. Activity parameters (monitoring devices)

Another source of data is data on activity of citizens. These can be derived from e.g. monitoring devices, but also memberships of sports related organisations can give indications.

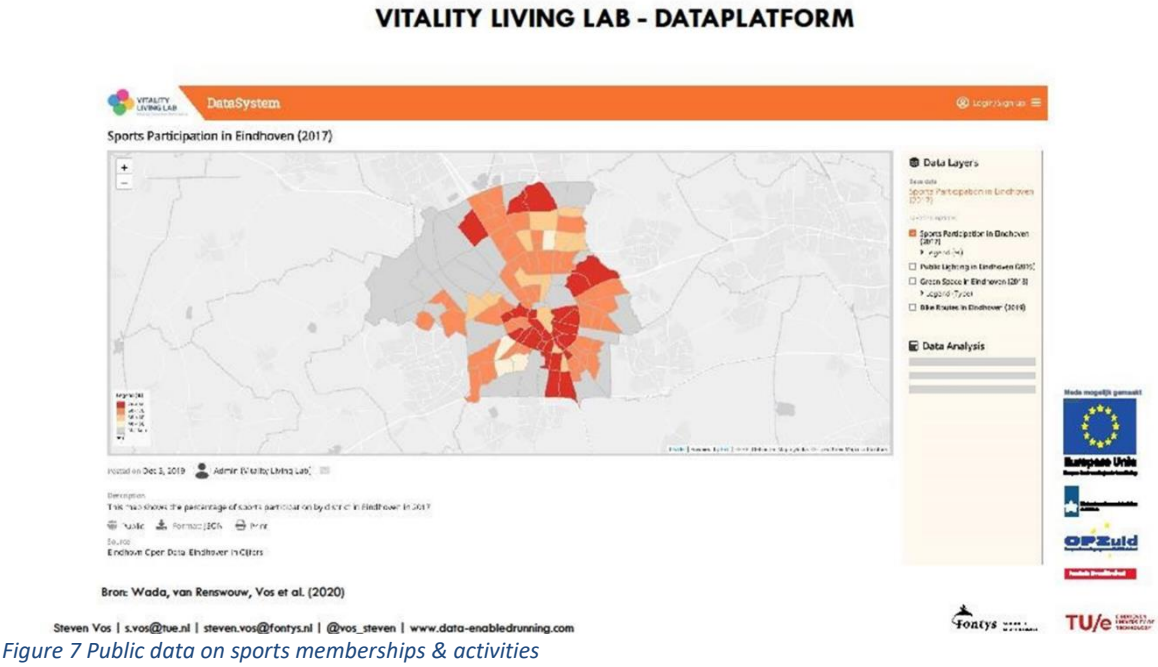


Figure 7 Public data on sports memberships & activities

3. Infrastructural data (like roads, light paths, etc.).

The third source is the infrastructural data, e.g. on roads, green areas or lightning. These data are available from the municipalities and by overlaying them they create new insights in locations where green environments can be used for recreation or where barriers are present.

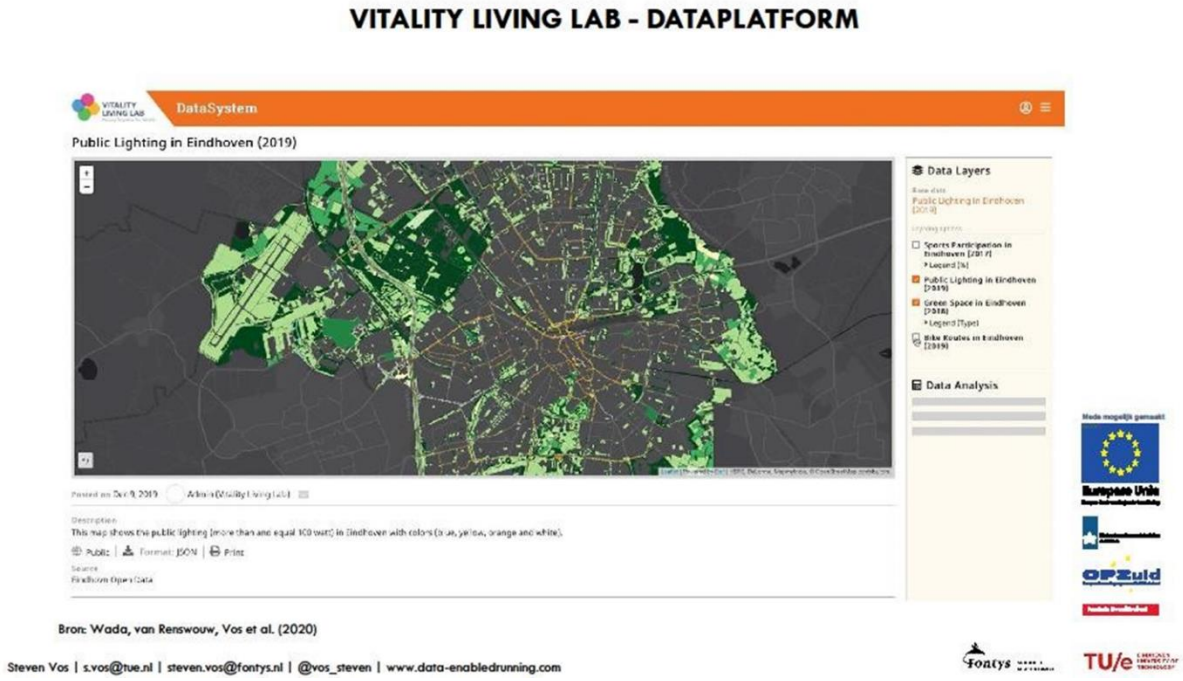


Figure 8 Combined public data on green areas and public lightning

Combinations of these public data give insights for local governments to act upon, e.g. to make green areas more safe in the evening with better lightning, or to create more green areas in neighbourhoods where activity levels are low.

3.2 Use of public data: public lightning in (inter)active light paths

One example is the use of data in a specific neighbourhood to discover the need of special light paths in the evening to make citizens more secure in the evening to go out walking. This needed special lights to not disturb bats flying in the evening. But also special 'contact' points were installed to be able to use apps to challenge people to do exercises, walk with certain speeds or to meet others. It is now in use as a living lab to experiment with different products and services and monitor the effects.

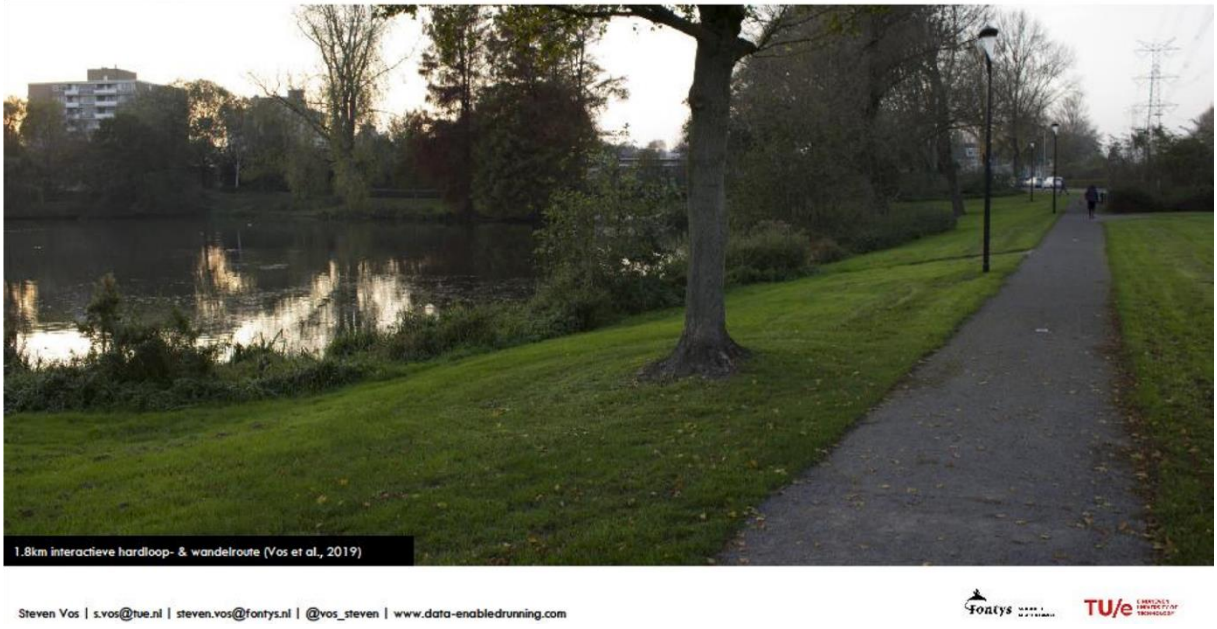


Figure 9 The particular environment in daylight

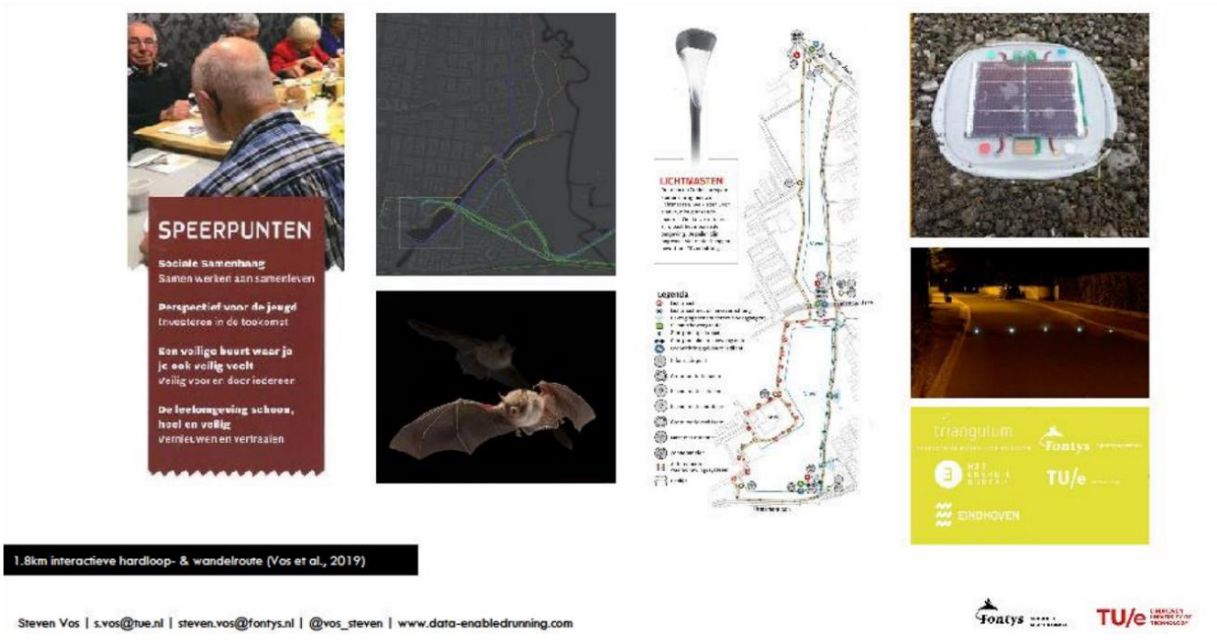


Figure 10 The smart environment: walking path with smart lightning and 'contact'points

For more information on the monitoring of the use in the living lab there is a scientific article available here: https://orbilu.uni.lu/bitstream/10993/45727/1/D4H2020-Proceedings-Vol-4.pdf

Figure 11 The end result, a smart walking path as a living lab

3.3 Use of public data: interactive tools in the public environment

Another example is the product of the Dutch company Embedded Fitness: SmartMove which is an innovative, interactive, walking and sport route, consisting of a route of poles placed in the public environment with smartstones inside that are connected with an app (https://embeddedfitness.nl/referenties/project-smartmove/).

- Interactive poles, smartstone in object
- Placed in public spaces
- Double LED ring in smartstone
- Bluetooth connection with beacon and smartphone
- Feedback via Smartstone LED animation
- App with games for young and old
- Feedback in app: highscores, images, ..

By building a route of these smart poles all kind of interactions can be developed, for citizens, for tourists, for families, to activate but also to inform or to entertain. This type of product is now enrolled in different cities in the Netherlands (see a.o. https://www.linkedin.com/posts/carlascholten_vitaliteit-buitensport-activity-6823976672774111232-3duV) and has the potential to go international.

It creates user interaction but at the same time it also delivers public (anonymous) data for local governments to monitor the use of it.

3.4 Use interactive tools for activation and monitoring

A third example is the use of smart tools to support and engage urban sport environments. This is a recent very successful development called City Legends that provides a platform with an app to

Figure 12 City Legends: a way to create a community of individual urban sporters

engage young urban sporters, but at the same time also provides data for both the users (the urban sporters) and give insights to the local governments and even a toll for the urban sporters to communicate with the local governments (http://www.citylegends.nl/).

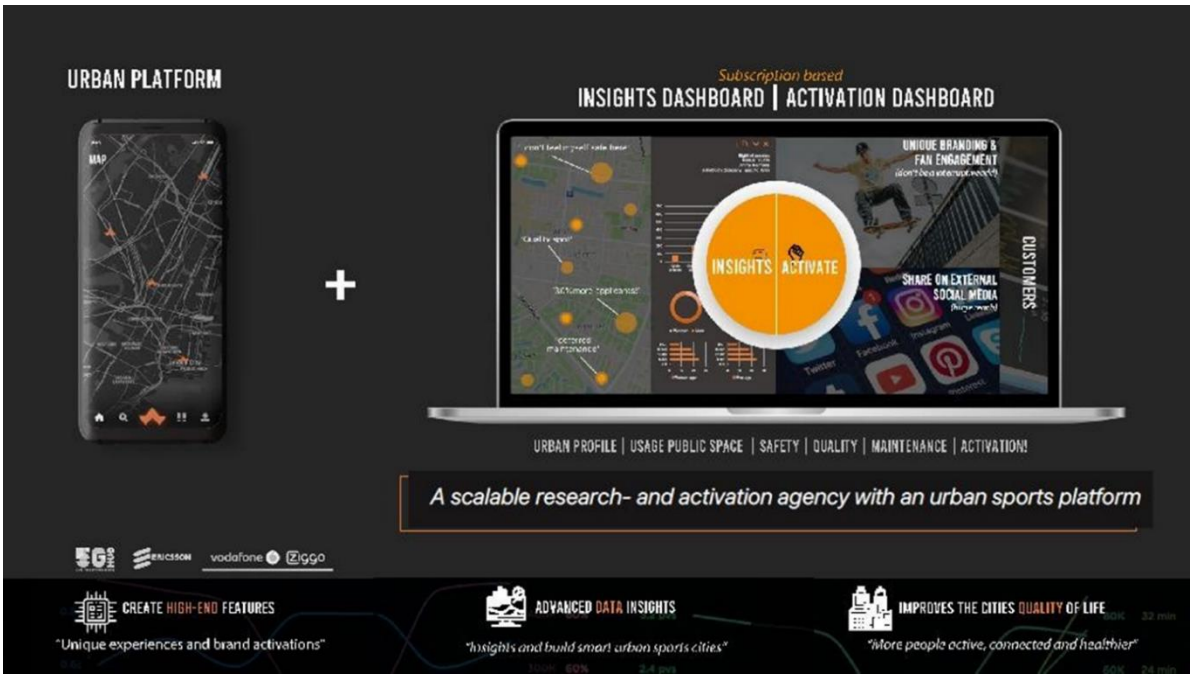


Figure 13 For local goverments a tool to create insights and activate users

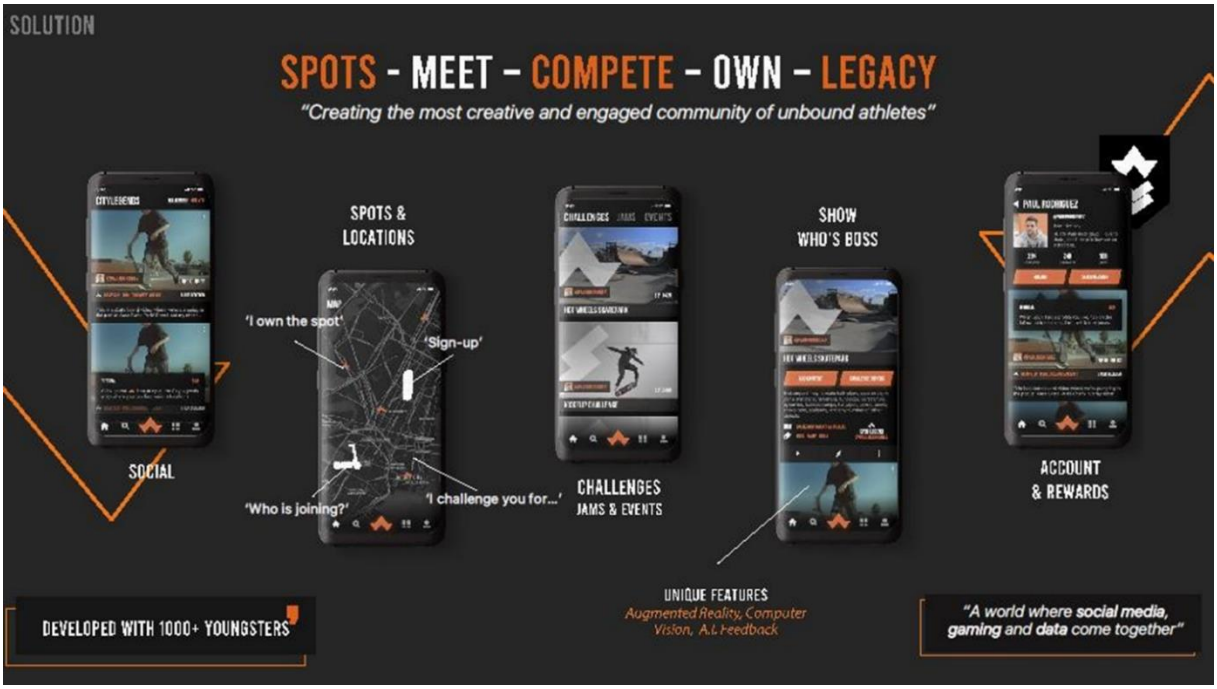


Figure 14 A tool to create competition, to meet, to post

4 Using GDPR proof data

In all these examples it is key to use GDPR proof data since monitoring and activation Is done in a public environment and therefore anonymity has to be guaranteed for the user of these public environments. Nowadays more and more tools are becoming available that can process data without harming the GDPR guidelines. An example is the technology to use cameras that immediately process images into anonymous info on number of participants, speed, direction of 'objects', etc without disclosing info on identity or image, profile, etc.

Figure 15 An example of a camera-system that anonymously captures info on moving objects

More information on GDPR regulations can be found in the Report O1.2 as deliverable of the Pilot Action, and was disseminated to the partners of the Pilot Action in a workshop on June 30, 2021.

5 Summary

(GDPR proof) Public data can be used in a multitude of applications with the aim of developing products and services to stimulate citizens to have an active healthy lifestyle. These applications have been developed in the region of South Netherlands to support municipalities to change their public environments to make it attractive for citizens to recreate and become active. The different levels of application can be discerned into the following types of application:

- Use public data to create insights on population behaviour and the state of the public environments
- Develop policies to improve specific public environments with the aim to stimulate citizens to become more active
- Make the public environments interactive and smart
- Collect GDPR proof data to monitor the use of the public environments
- Use data with smart insights to create 'individual' profiles and response, to enhance interaction between the user and the environment
- Use the response to create more attractive public environments and therefore enhance the activity level of the population.