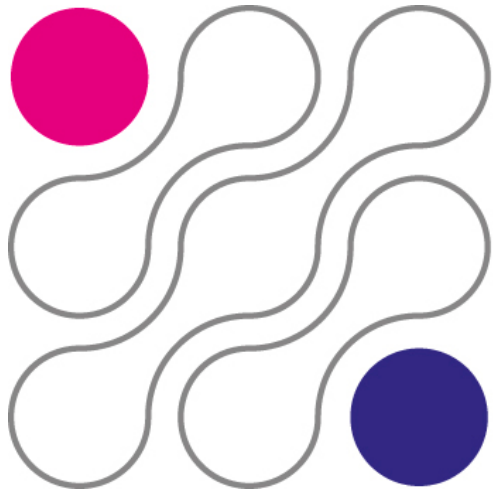
The background of the slide features a person running on a path, overlaid with a digital aesthetic. A network of glowing yellow lines and binary code (0s and 1s) is superimposed on the scene, which is bathed in a warm, orange-gold light. The person is in the center, slightly out of focus, wearing a dark long-sleeved shirt and dark pants.

Mini-project Nano4Sports

Feedback on the optimal (trainings) load for recreational runners through 24/7 monitoring

Steven Vos, Jos Goudsmit & Carl Megens

Background – the Nano4Sports project



nano⁴SPORTS

TECHNOLOGY FOR AN ACTIVE LIFESTYLE

Steven Vos, Jos Goudsmit & Carl Megens

Background – the Nano4Sports project



Interreg 
EUROPESE UNIE
Vlaanderen-Nederland
Europees Fonds voor Regionale Ontwikkeling

The Nano4Sports project is funded under the Interreg V program Flanders-Netherlands, the cross-border cooperation program with funding from the European Regional Development Fund. More info: www.grensregio.eu

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TU/e
Technische Universiteit
Eindhoven
University of Technology

Fontys
Sport Hogeschool

Steven Vos, Jos Goudsmit & Carl Megens

Background – the Nano4Sports project



Technological innovations have a huge impact on the way we move & exercise and how we feel about ourselves. Nano4Sports uses sensor technology to develop smart innovative solutions for better, safer and lifelong sports experiences for all. Nano4Sports will be the reference for sports innovation in Flanders and the Netherlands.

Background – the Nano4Sports project



Background – the Nano4Sports project

We **focus** on:

Running

Cycling

Continuous Monitoring

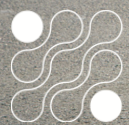
Pooling of **expertise & knowledge**:

Nanotechnology

Sports Biomechanics

Sports Analytics & Data Sciences

Sports-specific Feedback Systems



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Background – the Nano4Sports project



Nano4Sports-partners:

University of Leuven, imec & Holst Centre, Ghent University, University of Technology Eindhoven, Fontys University of Applied Sciences



Steven Vos, Jos Goudsmit & Carl Megens

Introducing the mini-project

Setting the scene - running

Growing popularity (+50 million EU-28)

Supposed effect on public health

Covers incentives/drivers for PA & Health

- Social interaction
- Competition
- Fun
- No time/location constraints

Diversity of participants

- Age, gender, SES
- Experienced – less experienced
- Motives

Steven Vos, Jos Goudsmit & Carl Megens

Introducing the mini-project

Setting the scene - running

Flexibility for people to combine sports with work & family life

Fits with our dynamic & often less organized schedules & life patterns

Less preparation to get involved

Negative side effects

- Less experienced runners often lack personal guidance and in combination with the search for a balance between work, family, friends, sleep and sports, overuse injuries occur, resulting in drop out
- No time/location constraints

Steven Vos, Jos Goudsmit & Carl Megens

Introducing the mini-project

Challenge with regard to less experienced runners – 24/7 load

Currently, less experienced runner's make use of standardized training programs and / or advice, which don't take into account the **daily lifestyle and dynamics** of runners on a 24/7 basis, for example, a stressful day at work, little sleep because of sick children, an unexpected game of squash with friends.

Individual training load (internal load) is depending on **individual and temporal resilience**. Such high individual differences, especially among novice and less experienced runners, challenge **individual tailored feedback** on both injury prevention and effective training in relation to their 24/7 lifestyle.

Integration of wearable body sensor technology could provide solution for individual based feedback in recreational runners based on monitoring daily lifestyle.

Introducing the mini-project

Aim – 24/7 load

In this mini-project, we want to stimulate a healthy and responsible daily active lifestyle, through the design of a 24/7 monitoring wearable that provides feedback and forward on the 'right' amount of activity in the right way.

Steven Vos, Jos Goudsmit & Carl Megens

Introducing the mini-project

Visit @ Fontys Sporthogeschool

- Theo Koomenlaan 3 – Eindhoven - 5600 AH Eindhoven (Genneper Parken)
- Thursday, 23 March 2017 (10:45 – 12:30)
- Volunteers to be 'a test person'?



Steven Vos, Jos Goudsmit & Carl Megens