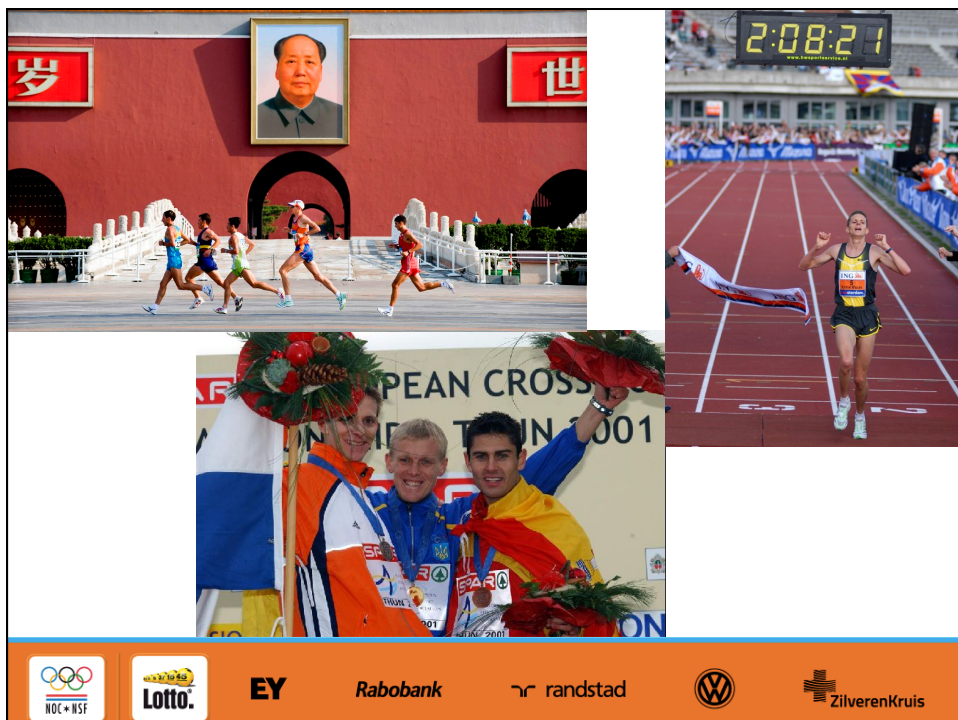


## ***Sport science, data and the 'Sports Data Valley'***

COMMIT community day, October 13<sup>th</sup> 2015, Papendal  
Kamiel Maase, NOC\*NSF Topsport



## Personal background

### ACADEMICS, WORK

- Microbiology (UT Austin)
- (Bio)chemistry (Leiden)
- Researcher (microbiology) DMV Campina
- Business Administration (RSM Rotterdam)
- *Performance manager Sport Science & Innovation, NOC\*NSF*



## My current life





## Sport Science & Innovation Program

**MAIN GOAL:** performance enhancement (medals!)

**By:**

- Distributing/ implementing knowledge
- Hiring experts
- Setting up infrastructure (field labs, embedded scientists)
- Research and innovation (including measurement & feedback systems, apps, ...)

→ A lot of data is generated...



## (Big) data in sports – definition

### Types of data, a possible classification

- **Recreational sports ('organized')**: monitors (participation data, members, KISS, "who & where?");
- **Recreational sports ('not organized')**: e.g. GPS data, social data and city characteristics → *large dataset*;
- **Elite sports 1**: sports intelligence (competition results, performance progression, performance outlook ('funnels'), benchmarking → tool for investment decisions;
- **Elite sports 2 (my cup of tea)**:
  - ✓ Athlete measurements (physical, mental...)
  - ✓ External/environmental measurements
  - ✓ Competition analysis (technical, tactical)



## Examples (elite sports 2)

### Regular measurements

- Heart rate, speed, contact times, position, power, personal logs;
- Technical and tactical parameters ("tagging/ scouting");
- Anthropometry

### Reasons to measure and record

- Steering of training
  - ✓ Direct feedback, learning
- Match/race preparation and
  - ✓ Match/race analysis prior to next round
  - ✓ Protests



## Question

**When is data BIG data (and does that matter)?**



**EY**

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## Opportunities

### Larger data set

- Better analyses
- Danger: haystack

### Combine data

- From one-dimensional to multi-dimensional (multi-disciplinary)
- Expected and unexpected correlations

### Computing power

- Power of the Crowd



**EY**

*Rabobank*

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## Sports Data Valley

Minister of Health & Sport



Topteam Sport



Knowledge & Innovation Agenda Sport



- Ideas and Projects → Sportinnovator call ZonMw
- Centers (field labs) → Sportinnovator call ZonMw
- *Sports Data Valley*



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## Sports Data Valley – my basic view

### 1. Build ('infrastructure')

- Hardware
- Software (agreements on data formats, privacy, etc.)

### 2. Research programs

- Can be funded, project-based
- Dedicated research program (sports data program)?



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## Sports Data Valley – questions to you

- Feasible?
- What pitfalls to avoid?
- Which good practices can we learn from?
  - ✓ Avoid to re-invent the wheel...



# THE END

