The Rhino Project
Utilizing wildlife behavior for the detection of a poacher

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A Smart Wildlife Park

- With the current poaching trend, rhinos will be endangered
- We want to develop a resilient and robust anti poaching system
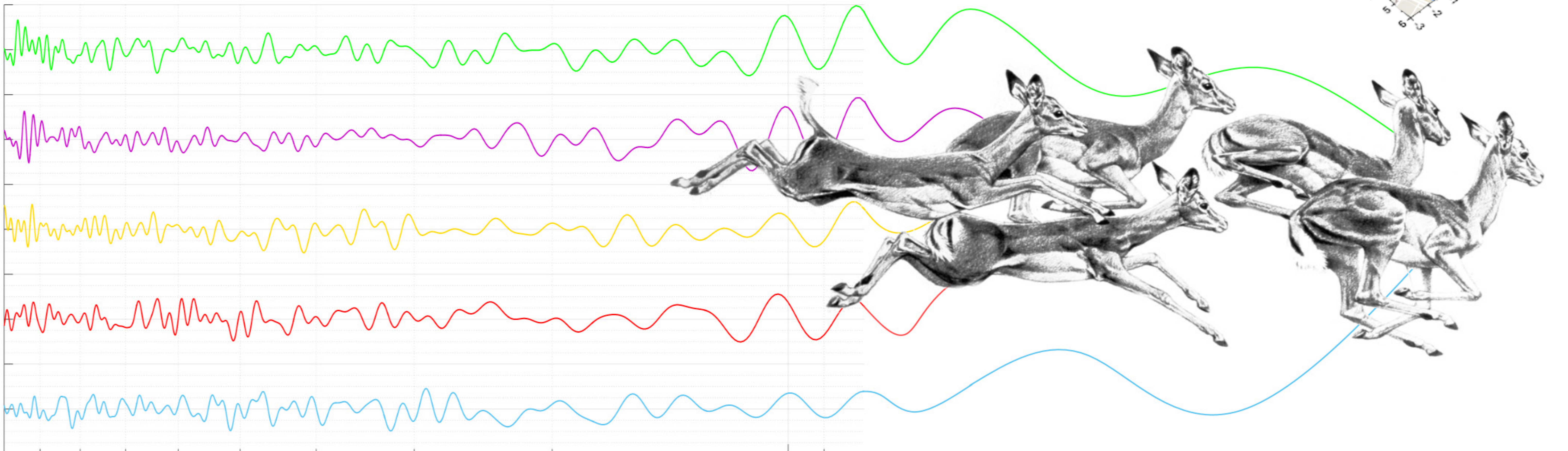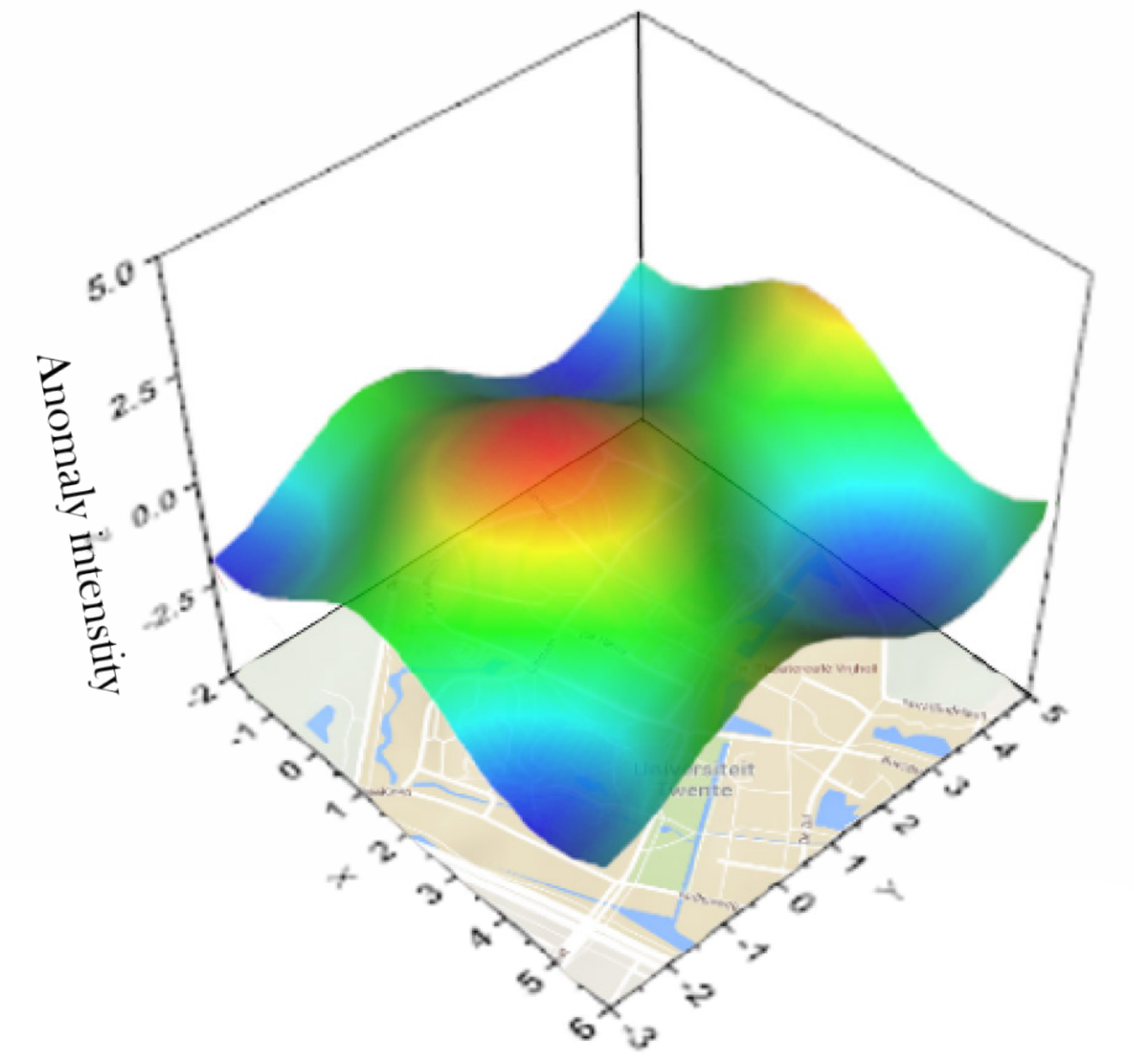- Fuse different technologies into a 'Smart Wildlife Park'
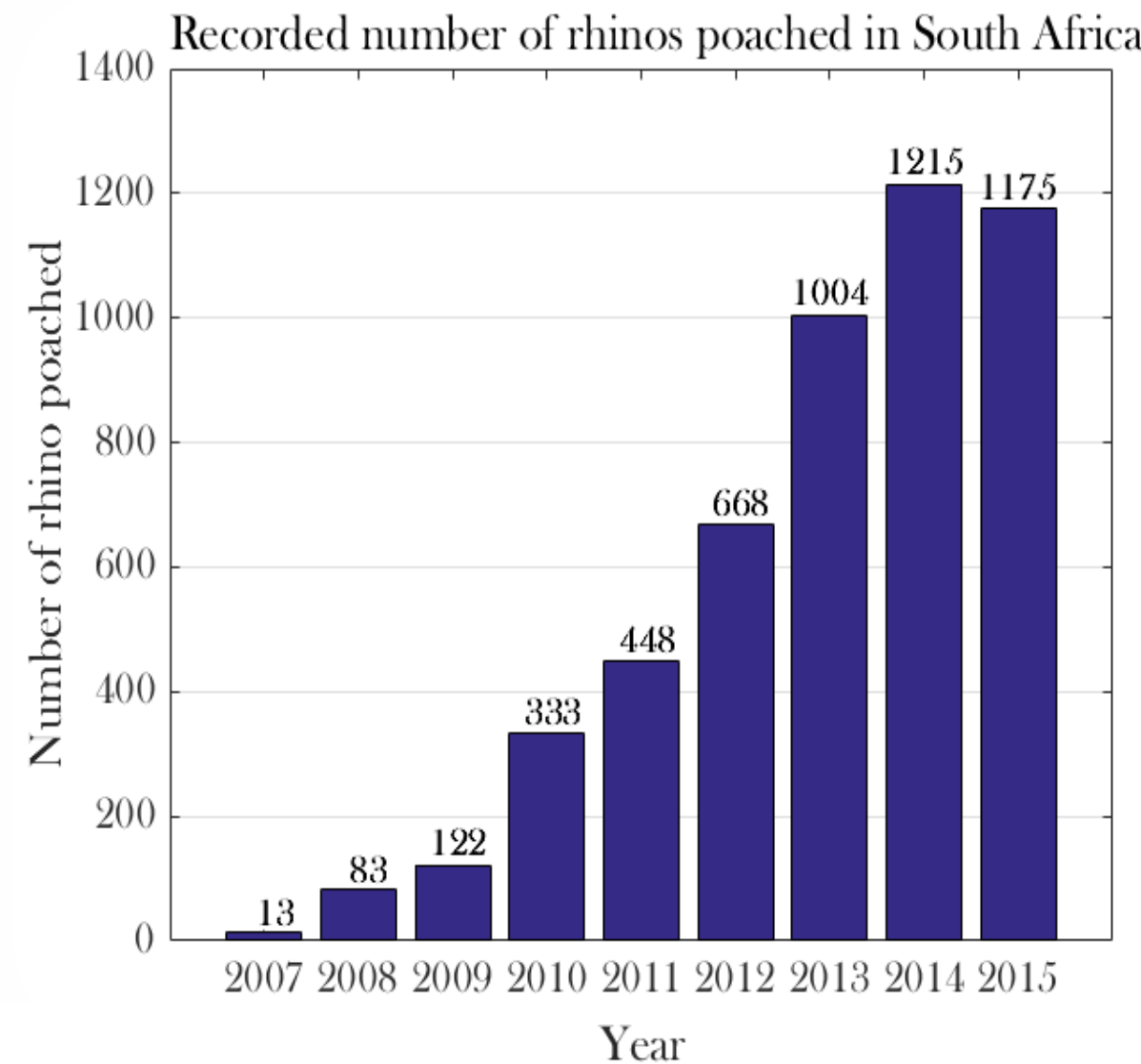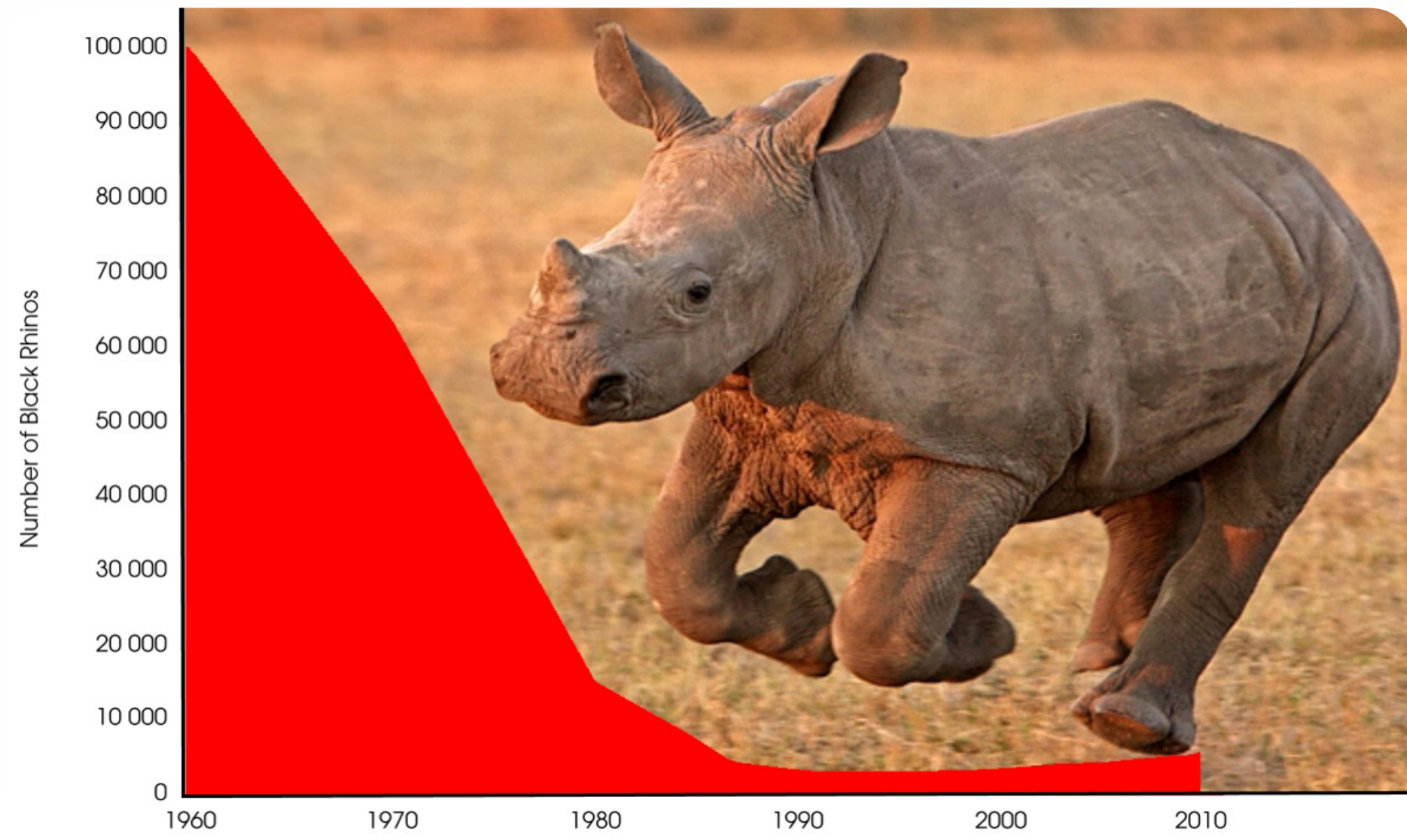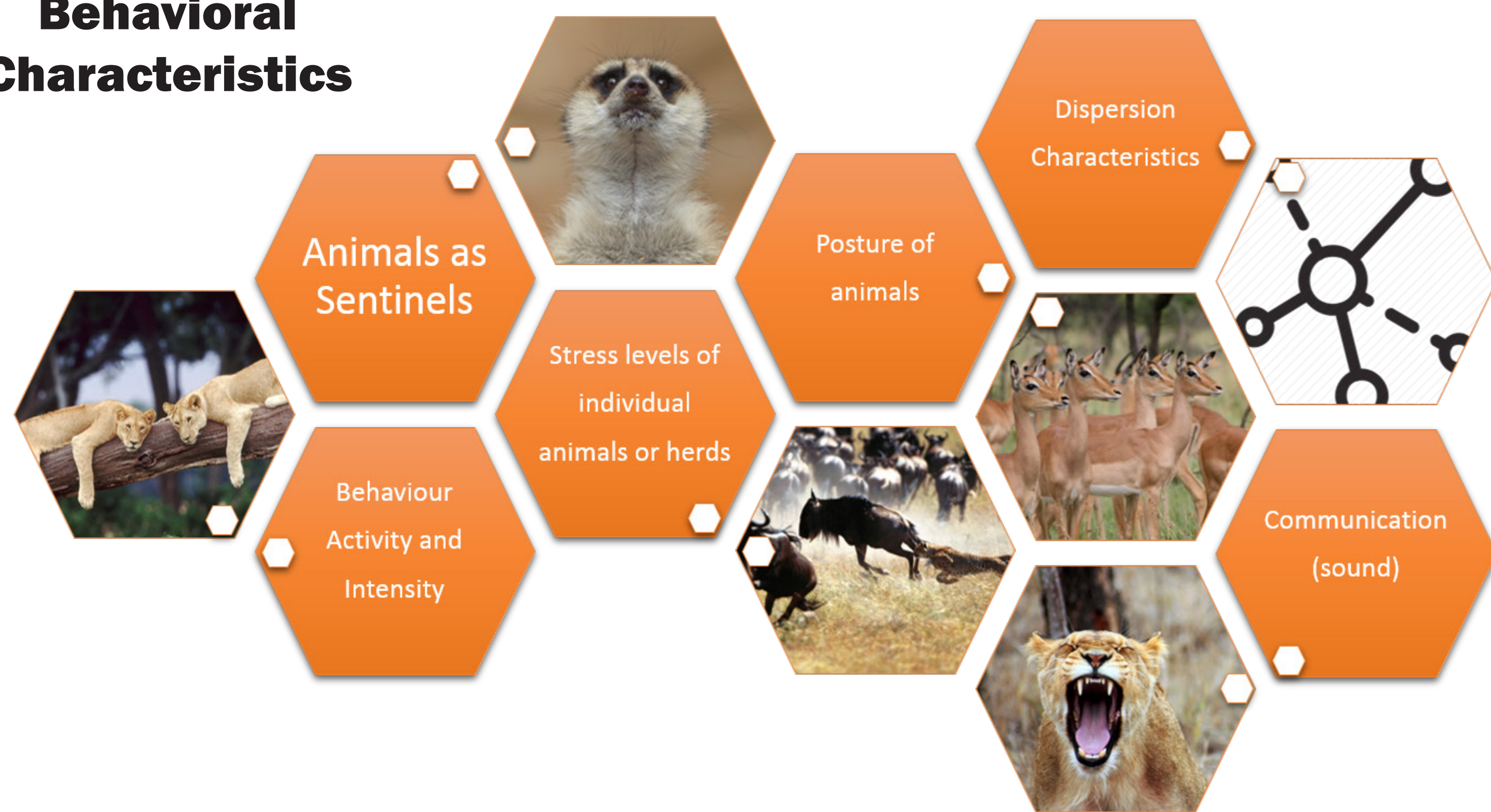
Current Methods

Goals

- Real-time and continuous monitoring
- Covering large areas
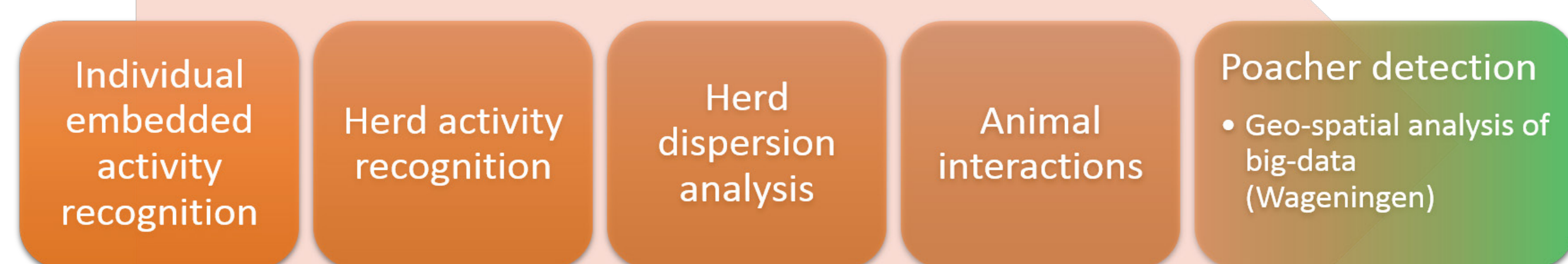- Early warning
- Non-invasive
- Robust

How can an animal tag accurately infer behavioral characteristics of animals and their interaction with minimum power usage and low computational complexity?
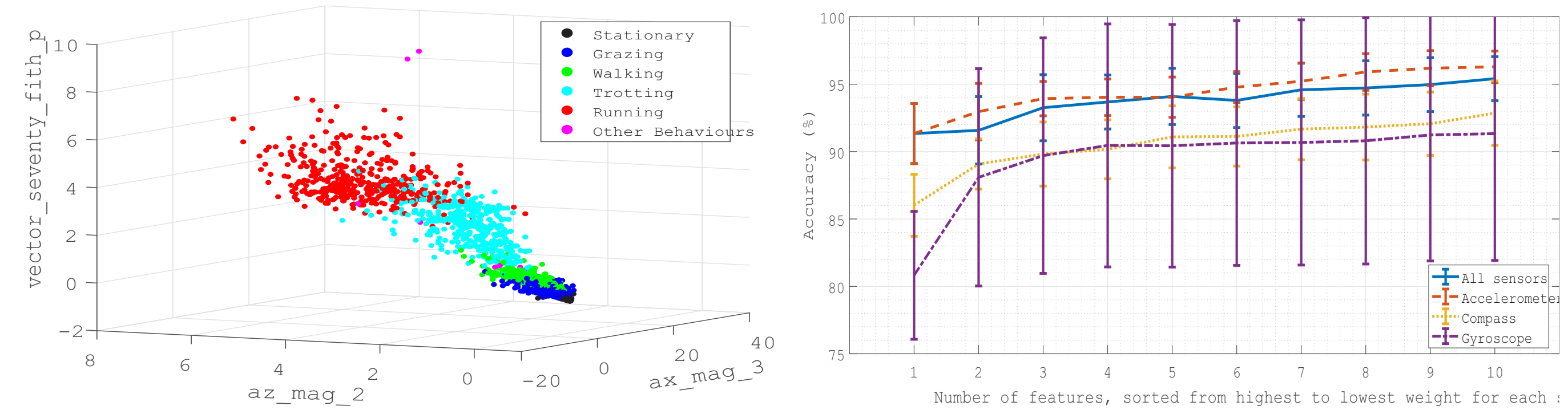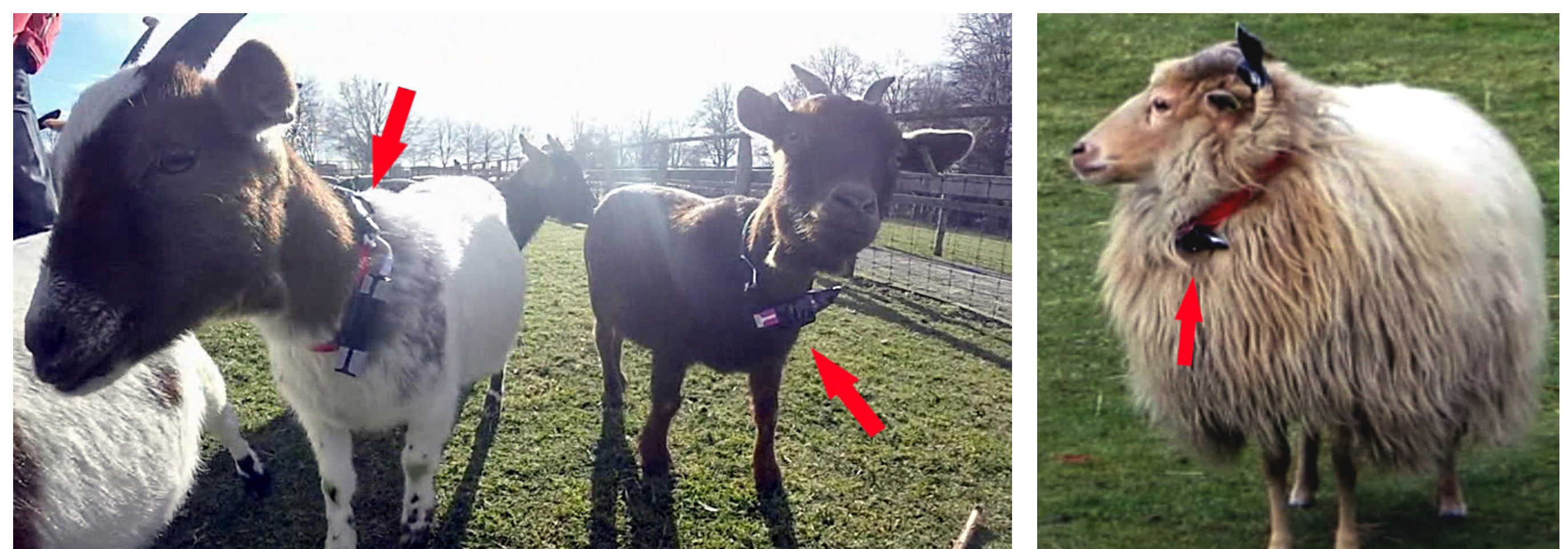
Behavioral Characteristics

- Animals as Sentinels
- Behaviour Activity and Intensity
- Stress levels of individual animals or herds
- Posture of animals
- Dispersion Characteristics
- Communication (sound)

Approach

- Individual embedded activity recognition
- Herd activity recognition
- Herd dispersion analysis
- Animal interactions
- Poacher detection
  - Geo-spatial analysis of big-data (Wageningen)

Sensor-Orientation and Species-Type robust feature discovery

Impact on Society

- Support the conservation of endangered species
- Enabling more-effective livestock management
- Enabling technology for crowd management

Impact on Science

- Analasysis of dispersion characteristics of WSNs
- Low power, low complexity, online activity recognition
- Group activity recogntion
- Technological advancement for Movement Ecology

PERVASIVE SYSTEMS RESEARCH GROUP

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ASTRON
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WAGENINGEN UR

Universiteit Leiden