



## BACKGROUND

Activity and movement is a fundamental diagnostic parameter of animal behaviour. However, measuring long-term individual movement within groups was not possible until now. Our SAM provides accurate individual movement data with full automation. It is a unique solution for the long-term tracking of individual animals living in groups.

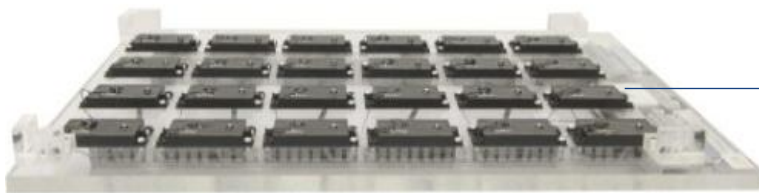
The sensor plate placed underneath a cage detects individuals and tracks them as they move through the cage. Automated and long-term assessment of individual activity is made possible without having to place individuals in separate cages. The SAM is working with RFID-technology.

## RFID TECHNOLOGY

Radio-frequency identification (RFID) is a technology to identify and to track an individual within a group of animals. Therefore, all animals have to wear sub-cutaneous tags. These tags (or transponders) require no battery and are powered by the electromagnetic fields emitted by the RFID-Readers in its proximity.

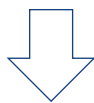
## CALCULATION OF

- Distances travelled
- Spatial preferences
- Move time
- Rest time
- Movement velocity



Transponder reader

SAM with e.g. 24 transponder readers



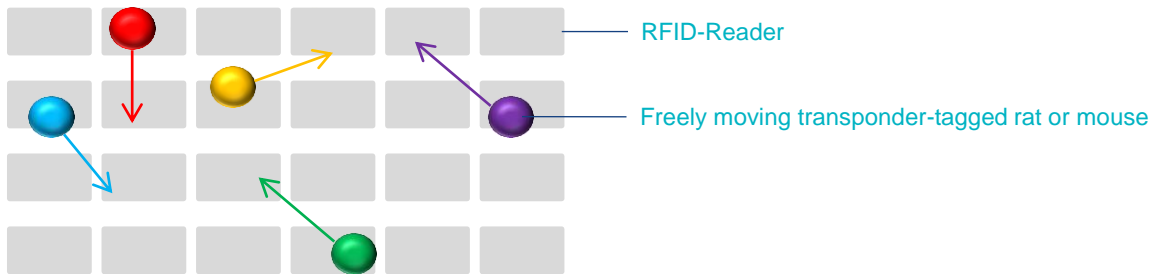
Home cage

Bedding

Plate with transponder reader



Schematic presentation of animals living in groups in a SAM:



### APPLICATIONS

- Measurement of individual locomotor activity and distances
- Ideal for rat and mouse models of hyperactivity, movement disorders (i.e. ADHD, Parkinson), neuropathic pain and arthritis
- Determination of individual spatial preferences within a group cage

### KEY FUNCTIONS

- Based on RFID-technology (transponder)
- Easy to use sensor plate, fully automated
- Efficient space use since individuals stay in group cage
- 24/7 for every animal tagged

### OPTIONS

- Combination with Automated Group Cage as a solution for e.g. ADHD
- Available for different cage types