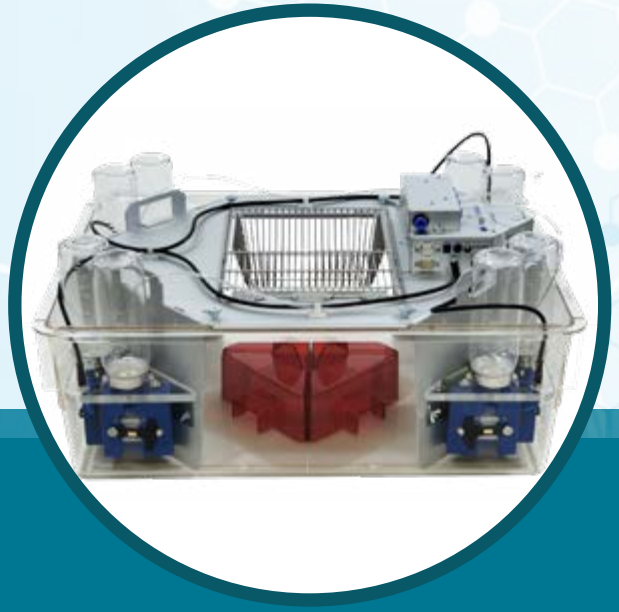
IntelliCage

The IntelliCage allows you to assess the home cage behavior and cognitive performance of up to 16 individual mice or 8 rats separately while they are living in a social environment. This unique experimental setup fosters natural social behavior in a biologically relevant, enriched but highly standardized home cage context. In this way, the IntelliCage minimizes the need for handling and human intervention, thereby increasing task validity, data reproducibility and ensuring a high level of animal welfare.

- In depth screening of individual experimental animals in a social context
- Up to 16 animals per cage, efficient testing, high throughput
- Maximal standardization and reproducibility
- Minimal human intervention, high validity
- Fully automated task performance
- Broad variety of accessible data
- Flexible design of paradigms



PhenoMaster

The PhenoMaster is the world leading metabolic and phenotyping platform. The system is made to be flexibly adjusted to your specific research field and will be customized to your specific research needs, while still allowing you the flexibility to add additional modules if your research focus changes. To choose the most efficient setup, please contact our experts to discuss your specific needs. Three disciplines combined in the home cage: metabolic, behavioral and physiological data are captured in high resolution and complete synchrony.

- Characterization of experimental animals under controlled conditions in the home cage
- Elimination of human bias
- Standardization of the environment
- Broad spectrum of available parameters
- High throughput phenotyping by running large number of cages in parallel
- Real-time measurement of O_2, CO_2 and energy expenditure with optional $13CO_2$, CH_4, H_2, H_2S, N_2O, NH_3 sensors

Stellar Telemetry

Stellar Telemetry is the newest generation of implantable telemetry technology, allowing you to collect vital signs while performing phenotypical, physiological, pharmacological, behavioral, metabolic and inhalation studies in and outside of your facility. An unlimited number of animals can be monitored by one receiver, facilitating group housing and social interaction studies while monitoring individual animals without having to place a receiver under each cage.

- Collects data anytime, even when outside up to 5 m normal transmission range
- Data can be recorded in continuous and/or scheduled mode for maximizing battery life
- Catheter tipped solid-state pressure sensor (eliminates slow frequency response, head pressure, noise)
- Remote programming and control of implanted transmitter
- One receiver for multiple animals
- Economic (transmitter can be re-implanted)
- Dedicated software Biopac Acqknowledge or NOTOCORD-hemTM Evolution (GLP compatible)

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PhenoWorld

PhenoWorlds are custom-designed and custom-built systems for colony housing of groups of freely moving animals in a super enriched environment. Animals are living in a combination of home cages and customized arenas in a social context. Depending on the components selected, several behavioral domains can be tested at the same time. From a basic PhenoWorld, combining an IntelliCage with PhenoMaster modules, to highly customized semi-natural environments, our in-house scientific staff designs the PhenoWorld together with you. All technology building blocks from TSE Systems can be incorporated in "your" PhenoWorld. The highly automated systems increase animal welfare, minimize stress and experimenter influence on the animals behavior, resulting in highly reproduceable experimental data. PhenoWorld allows for/can be extended to:

- Cognitive Screening
- Metabolic Screening
- Physiological Screening
- Behavioral Screening

Multi-Conditioning

The Multi Conditioning system is designed for multi-purpose behavioral testing, e.g. the evaluation of learning, memory, emotion and stress-related behaviors in mice and rats. One system supports nine paradigms, hence it saves valuable lab space, allows high throughput and efficient research. In accordance with the experimental requirements, each measuring unit can be equipped with a large variety of arenas, equipment and software modules.

- Two configurations: large (rat & mouse), small (mice)
- Customizable: select arena/paradigms/accessories according to your current experimental demands
- Nine pre-programmed paradigms, flexible experimental design in one chamber
- Increases intra- and inter- lab reproducibility (enclosed experimental environment)
- Experimental live monitoring
- Preprogrammed analysis plus export file
- User friendly software design

MotoRater

MotoRater is a semi-automated system for rodent kinematic gait analysis with high sensitivity to evaluate 4 different motion modalities – over ground walking, skilled ladder walking, wading in water and swimming. In contrast to conventional methods, MotoRater allows testing animals in water, which offers the exceptional opportunity to evaluate severely impaired rodent models, which would not be able to support their body weight on solid ground.

- Fine kinematic gait analysis in 4 modalities: walking, ladder walking, wading, swimming
- Observation and analysis of 3 animal sides
- Data from all relevant body parts – not just paws
- Movement analysis based on trajectories of joint positions and angles with respective properties
- More than 100 parameters
- High sensitivity
- Combines with several other methods (e.g. Electrophysiology, Optogenetics and Telemetry)

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