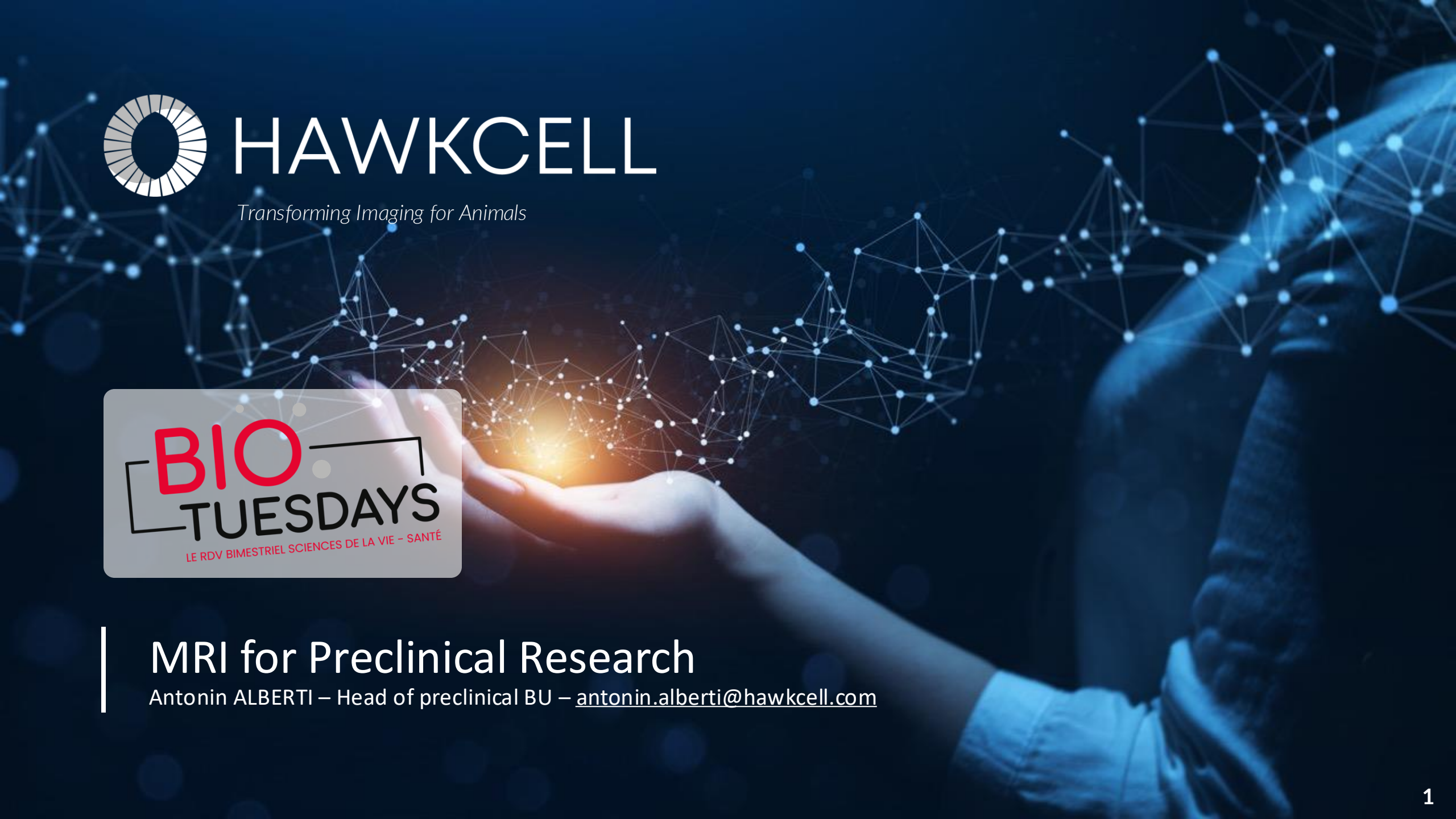


MRI for Preclinical Research

Antonin ALBERTI – Head of preclinical BU – antonin.alberti@hawkcell.com

Advancing Preclinical Research Through MR Imaging Innovation

Who we are?

HawkCell is based in Lyon (France) since 2019

***Deeptech** French award 2023*
***SERIE A** funding 2024*

What we do?

Transforming animal health imaging through **cutting-edge innovation** in software, AI, hardware, and global expert collaboration.

Our mission:

Empower researchers with state-of-the-art technology to **propel research forward**, **reduce costs**, **enhance accuracy** and **uphold animal welfare**.

Our services for Biotech

Preclinical studies

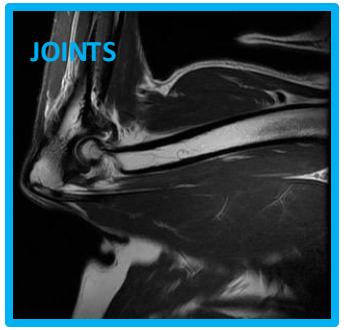
- HawkCell's research site is located in Lyon and **has all the equipment need** to conduct studies (laboratory, animal house, MRI 1.5T)
- Able to accommodate **all preclinical studies** (efficacy and safety) on both small and large animals

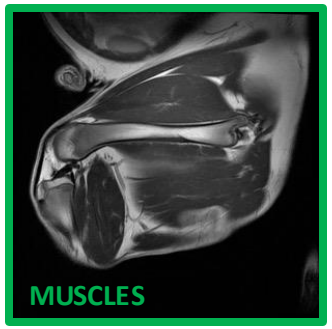
MRI expert for your CRO

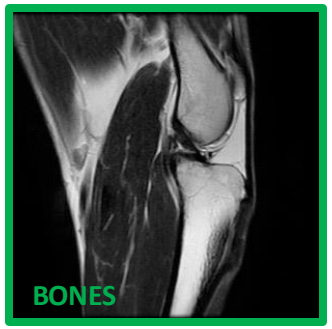
- Hawkcell **supports all CROs** with its imaging solutions
- Expert in all studies:
  gene therapy, neurology, oncology, studies of ligaments and tissues, cardiology, etc.
- **Scientists in MRI acquisition and physics** for post processing

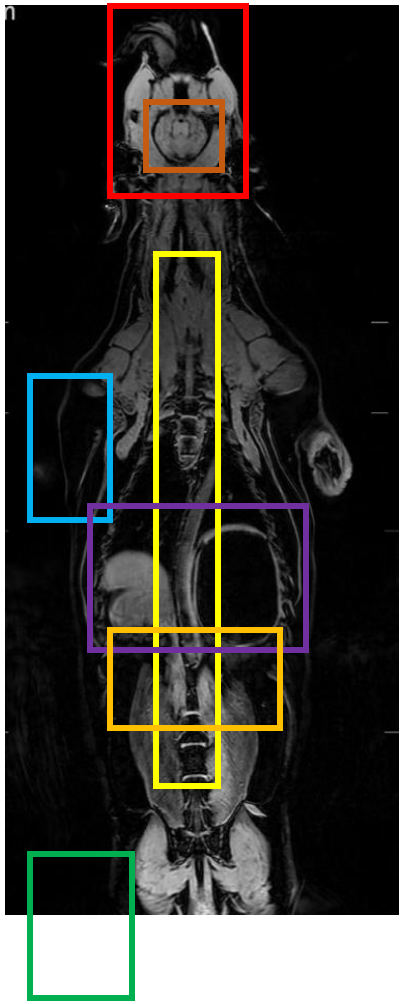
HAWKCELL

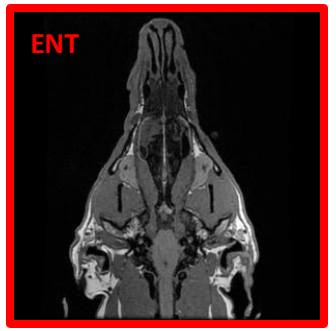
MRI for all therapeutic areas in Preclinical Research

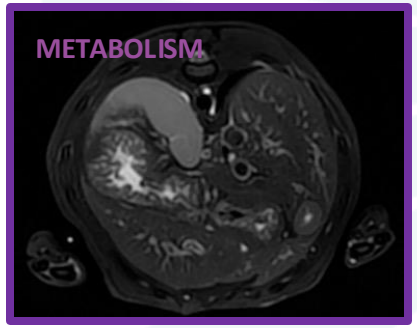






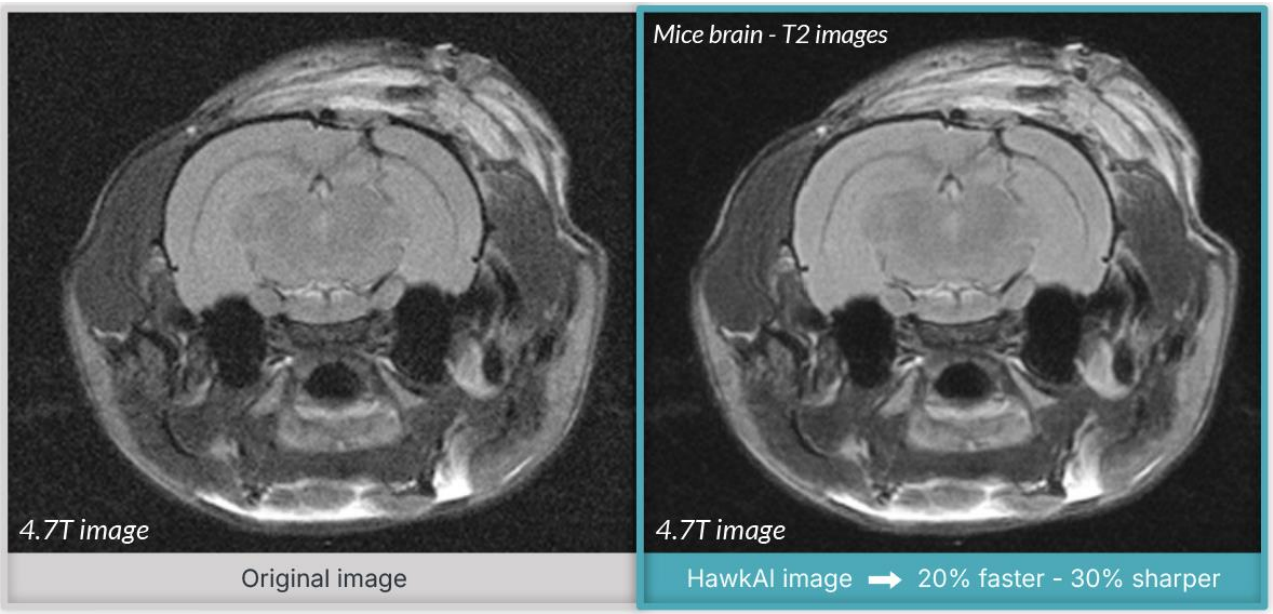




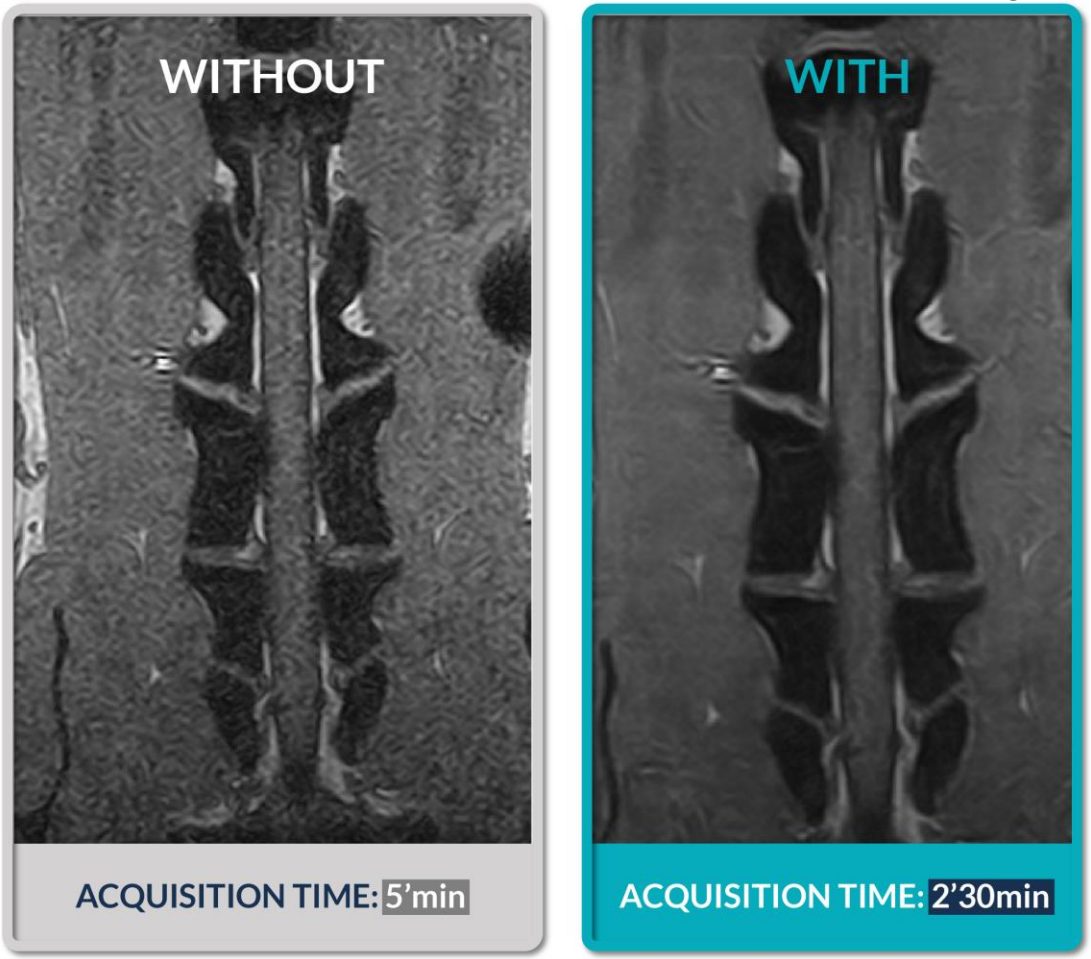


Our expertise with HawkAI

Optimize your MRI with **Faster** & **up to 50% Sharper Images**

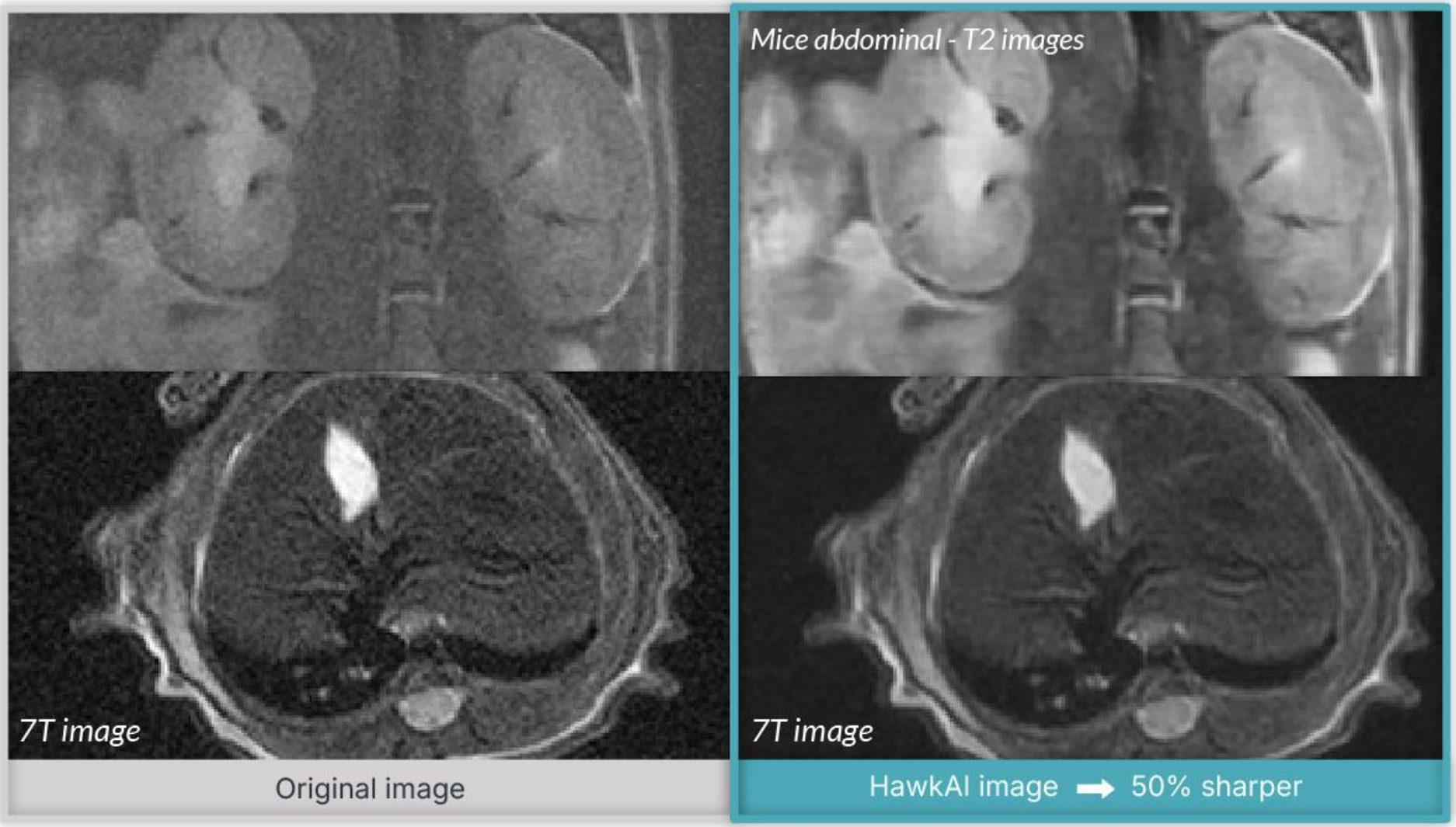


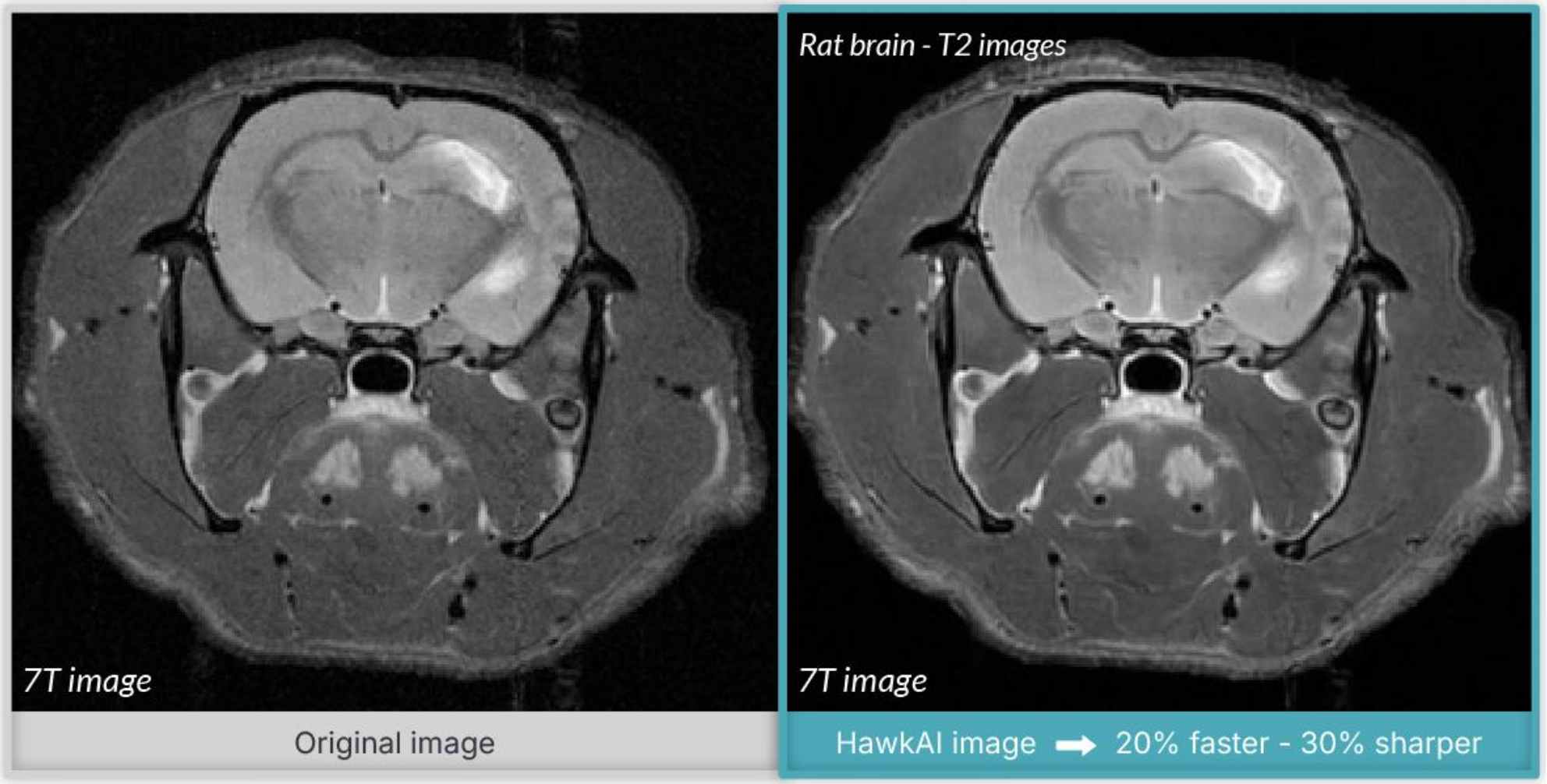
1.5T - STIR images



TRAINED SPECIFICALLY FOR RESEARCH USE

**HawkCell will provide a HR for each MRI acquisition during the project period*


Mice abdominal - T2 images
7T image
7T image
Original image
HawkAI image ➡ 50% sharper


Rat brain - T2 images
7T image
7T image
Original image
HawkAI image
20% faster - 30% sharper

HAWKCELL

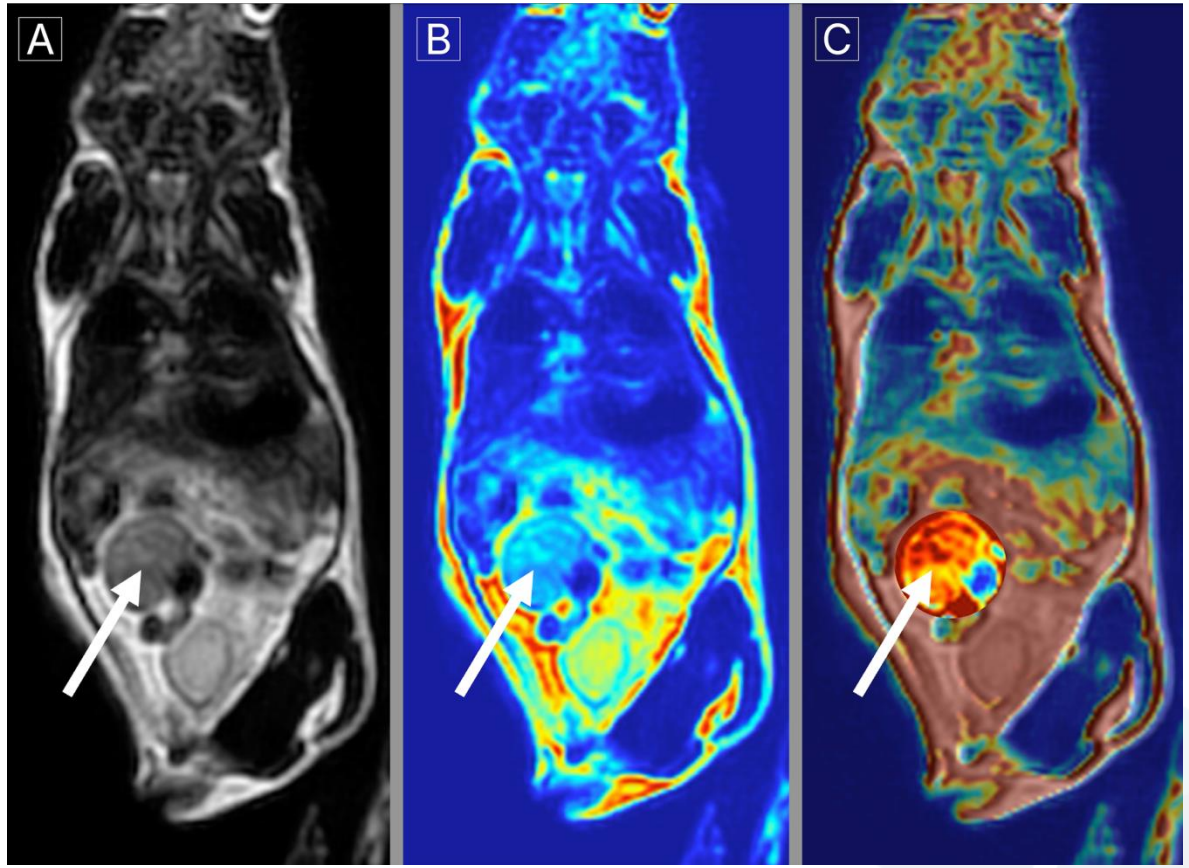
Case study

Oncology

Assessing Tumoral Volume in a Murine Colorectal Cancer Model Using MRI Technology

Benefits assessment:

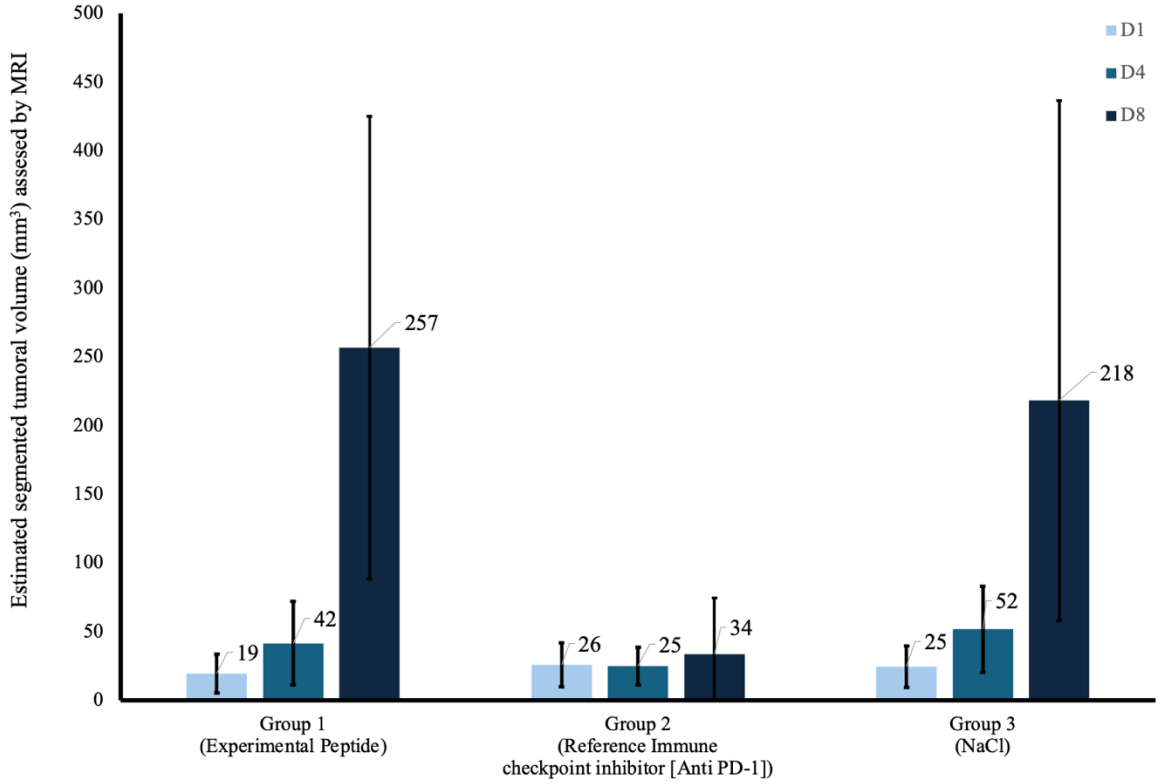
- ✅ Precise and non-invasive monitoring
- ✅ Detailed assessment of treatment effects
- ✅ Significant reduction in animal usage



T1-weighted MRI was able to in vivo monitor and quantify the evolution of the volume of an orthotopic tumoral lesion. (B) and (C) Different lookup tables were used to better define the lesion. The white arrow indicates the orthotopic lesion 8 days after implantation.

Oncology

Data analysis & Results



- **Precision:** MRI's 3D volumetric capabilities enable accurate measurement of irregularly shaped tumors.
- **Non-Invasive:** Unlike histological assessments that necessitate animal sacrifice at multiple time points, MRI allows for longitudinal studies in the contemporaneous cohort, minimizing variability and reducing the number of animals required.
- **Early Detection:** MRI's sensitivity in detecting small tumor volumes as early as day 1 is crucial for evaluating the early efficacy of therapeutic interventions.

These advantages make **MRI an indispensable tool for preclinical research**, providing valuable insights into tumor biology and the effectiveness of potential treatments.

Read the full White Paper HERE

HAWKCELL

Transforming Imaging for Animals

BIO TUESDAYS

LE RDV BIMESTRIEL SCIENCES DE LA VIE – SANTÉ

Thank you!