

STAR - Science and Technology for Research Applications Bringing together a multidisciplinary consortium of nine laboratories in the fields of physics, biology, medicine, computer science and engineering, Carnot STAR provides a set of complementary scientific expertise and know-how to support innovative industrial projects in "Sport, Health and Well-being".

www.carnotstar.univ-amu.fr

A CENTRAL PARTNER SERVING SPORTS, HEALTH AND WELL-BEING COMPANIES.

A broad-ranging panel of specific fields of expertise



Determinants of motricity

Expertise in the analysis, understanding, modelling and multidisciplinary exploration of movement based on mechanical, physiological, neurological and psychological determinants.



Nutrition/ métabolism

At the interface between Sport, Health and Well-being, this expertise is adapted to the needs of food and food supplement markets through a combined approach to nutrition including biological, medical and technological elements.



Performance, ergonomics, safety

Understand the task in order to adapt it to Man, and understand interactions between the material/environment and Man.



Biological and medical imaging

Within the framework of the Sport, Health and Well-being theme, imaging activities allow a better understanding of the mechanisms involved in certain physiological processes (muscle function, cardiovascular system, metabolism, etc.).



Embedded measurements

Design and production of high-performance embedded systems with a focus on safety, remote communication, power consumption. These systems are particularly associated with sports equipment and remote monitoring (to monitor medical health parameters, for personalised coaching, prevention, safety, etc.).



Data science

As a result of the explosive increase in the number of connected objects available on the market, significant challenges have emerged for the protection, control, and even enhancement of all the data generated in terms of safety, interoperability, automated learning, development of predictive models, and other applications.

Target markets

- Equipment and materials
- Medical devices
- Nutrition
- Connected objects/ artificial intelligence
- Sport and well-being
- Health Technologies
- Manufacturing
- Silver Economy





Carnot STAR's research & development

Thanks to its research teams and technical resources, Carnot STAR meets the needs of companies in terms of:

- Research and development
- Expertise and advice
- Services provided

Platforms and technical facilities

Carnot STAR has technological resources spread over a number of remarkable technical platforms and technical facilities:

- Analysis of sports performance (instrumented gymnasium TechnoSport)
- Medical imaging (clinical 7T MRI, interdisciplinary transverse imaging centre - CERIMED, small animal MRI imaging, functional imaging)
- Multimodal biological imaging, biomechanics (modelling, mechanical characterisation of biomaterials, experiments on bodies donated to science)
- Virtual reality dedicated to the study of human behaviour in an immersive situation,
- Biological screening, RFID characterisation.

Aix*Marseille

universite

🖐 Inserm

Key figures

Permanent staff (full-time equivalent): 350 PhD Students: 230

Partnership incomes with industry: €4,5M Global budget: €27M

Contacts

Serge MONNERET +33 (0)6 37 63 74 21 serge.monneret@univ-amu.fr icstar-direction@univ-amu.fr

Institut Carnot STAR

Cité de l'innovation et des Savoirs Aix-Marseille (CISAM) Bâtiment le Castel 61 boulevard des Dames 13002 MARSEILLE France





for industrial innovation

CENTRALE MARSEILLE

www.instituts-carnot.eu