

# TECHNOLOGY OFFER

## Design and three-dimensional reconstruction of the human skull applying the geometric abstraction method (Y-CR@NIUM)

Deaths of motorcycle drivers caused by traffic accidents represent up to 20% of the total. These deaths may be evitable if the currently employed helmets were less heavy and could absorb and redirect better the kinetic energy from the impacts, just like it occurs with the cranial fracture patterns due to impacts. To solve that, we propose the three-dimensional technology Y-CR@NIUM, which allows a better prediction of those patterns, reducing the cost and time of the crash tests, and designing personalised helmets to avoid critical events and death of the users, by the different accidents.



## COMPETITIVE ADVANTAGE

- More realistic approach than currently (dummies)
- Non-invasive
- Reduced cost, time, and materials
- Helmet customization, according to own natural geometry

## OBJECTIVE MARKET

- Education sector
- Automotive sector
- Biomedical research

## POTENTIAL APPLICATIONS

- Virtual simulations of the human skull, for academic studies
- Design of realistic dummies and, consequently, efficient protection systems
- Design of custom ergonomic helmets, less heavy and more effective

## ROADMAP / TIME-TO-MARKET

- FP7-PEOPLE-2009-IRSES numb. 247476 (2010 – 2014)

## RESEARCH GROUP

Marine ecosystems  
and human health  
(Sea Health)

TRL – 3  
In Development

## CONTACT

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