

HUByx, a finite element human body model

OBJECTIVES AND NEEDS

Precise human body model

- Ballistic impacts
- Blast protection
- Sports equipment

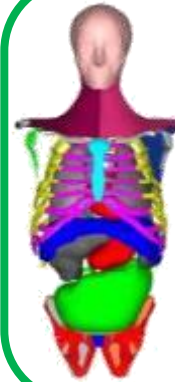
Need of human centered products

- Protection
- Comfort
- Musculoskeletal disorder reduction

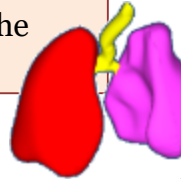


Accurate behavior of all members
 Accurate global behavior
 Interaction between the organs
 Accurate response to high speed impacts
 Representation of the human fluid

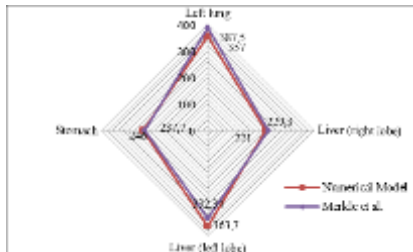
R&D PROCESS



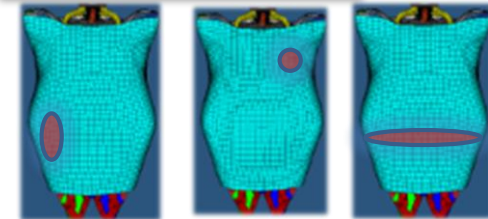
Organs and skeleton geometry from CT scans
 Material behavior from the literature



VALIDATIONS



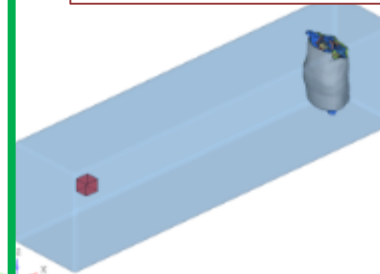
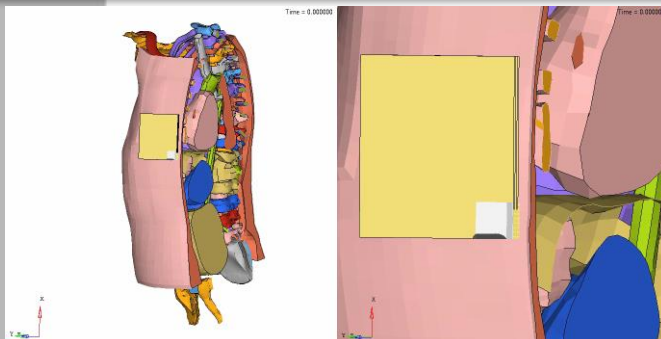
PRESSURE IN THE ORGANS



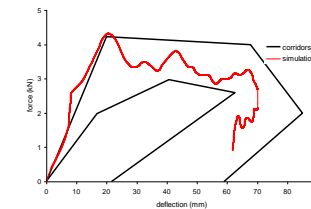
Time = 0.000

DEVELOPMENT OF NEW PROTECTIONS

Ballistics, blast...



Blast loadings



Low speed blunt impacts

