

### COMPETITIVE ADVANTAGES

- Biaxial deformations;
- High precision on measurement displacements (of the order of  $1/10e$  of  $\mu\text{m}$ );
- Possibility to perform tests on granular materials with fluids.

### APPLICATIONS/MARKETS

- Study of granular materials and powders;
- Natural materials (sand, gravels, clay, corn, coffee): geotechnics, soil mechanics;
- Materials derived from industrial processes (pharmaceutical tablets, steel and glass beads, food pellets): pharmaceutical and food industry.

### INTELLECTUAL PROPERTY

- Patent FR1161654;
- Collaboration sought: License for industrialization;
- Readiness level: laboratory prototype.

### LABORATORY

- Laboratoire d'Etude des Microstructures et de Mécanique des Matériaux (LEM3)

### CONTACT

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## PRESENTATION

The LEM3 laboratory has developed a device to test the behavior of granular materials and powders. **It allows studying grain deformation and a granular assembly submitted to an external compression.**

The device is made of a main box, which receives the tested material, on which are fixed longitudinal and lateral walls, partly mobile to apply pressure along those two axes. It also comprises a flexible membrane, on which pressure can be applied to increase the applied force intensity.

