

- Innovative prosthetic device could prevent the drawbacks of the currently implanted transcatheter heart valves.
- Technology could be adapted to non critical patients, opening new horizons for percutaneous implantation.

## KEYWORDS

Heart valve  
Transcatheter  
Minimally invasive

## INVENTORS

**Frédéric HEIM**  
LPMT  
CNRS - UHA UMR 7189  
Mulhouse, FR  
**Bernard Durand**  
**Nabil Chakfe**  
**Georges Kretz**

## TECHNOLOGY

- Alternative to Biological Tissue
- Textile valve composed of polyester fibers
- Discontinuous fiber construction
- Adapted to compression for transcatheter insertion



Prototype

## APPLICATIONS

- Transcatheter aortic/ mitral heart valve replacement
- Percutaneous valvular surgery

## INNOVATION ADVANTAGES

- Improved reliability and early detectable failure mode: no risk of catastrophic failure
- Less sensible to the stress imposed by both the radial compression at time of catheter insertion, and later by working conditions
- Low thickness (less than 100  $\mu\text{m}$ ) adapted to reduced catheter size
- Textile valve can be manufactured at very low cost and does not require any special storage environment

## DEVELOPMENT STATUS

- Fatigue tests on-going: already on 200 Mio cycles at 15Hz
- *in vivo* tests: implantation batch of 15 valves in sheep model ongoing, sacrificed at 6 month.

## CONTACT

Veronika Vallion  
Medical devices

Phone: +33 (0)6 10 07 00 19 - [veronika.vallion@satt.conectus.fr](mailto:veronika.vallion@satt.conectus.fr)

Parc d'Innovation

650 Bd Gonthier d'Andernach  
67400 ILLKIRCH - FRANCE

[www.satt.conectus.fr](http://www.satt.conectus.fr)

