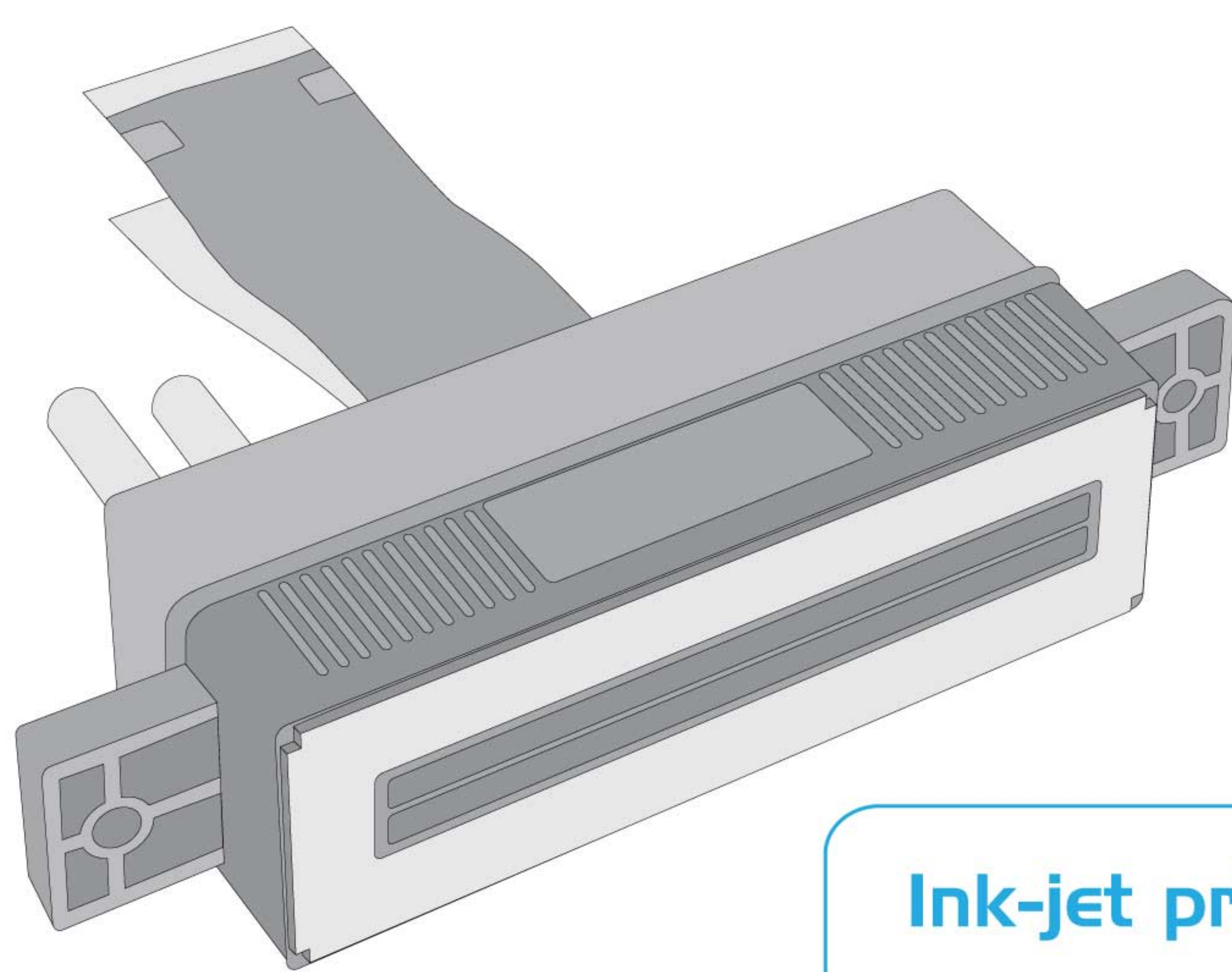


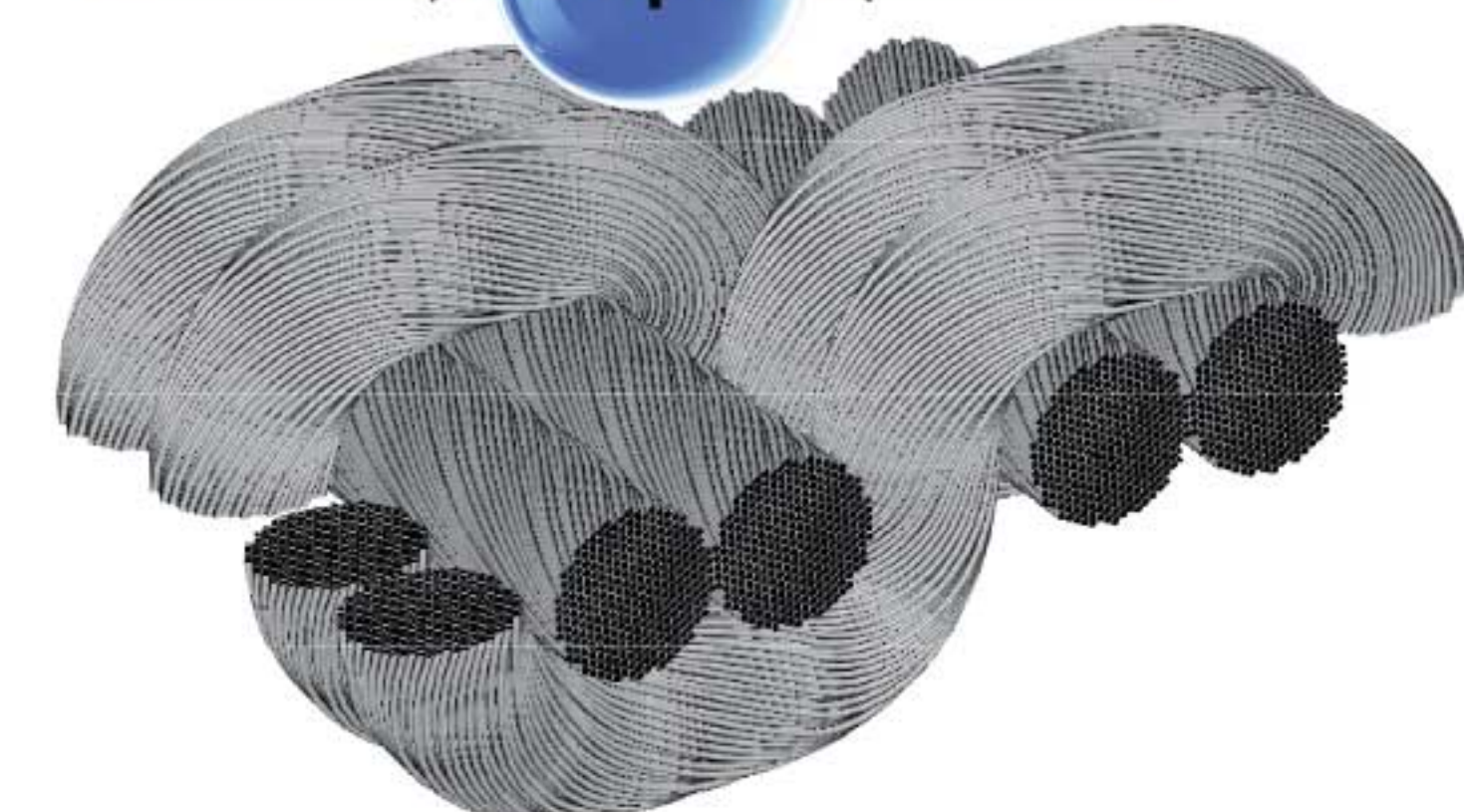
FunTeA CAD Toolbox for Functional Textile Architecture

Ink-jet printing on textiles



digital control
of each droplet

20µm



Ink-jet printing on textiles

- new functional textiles
- exact deposition of functional species
- reduced environmental impact
- energy saving

New functional textiles

Functional textiles are very common in everyday life from simple waterproof or antibacterial applications to the very specialized personal protective equipment. Development of novel functionalities requires precise control of species distribution and concentration in textile.

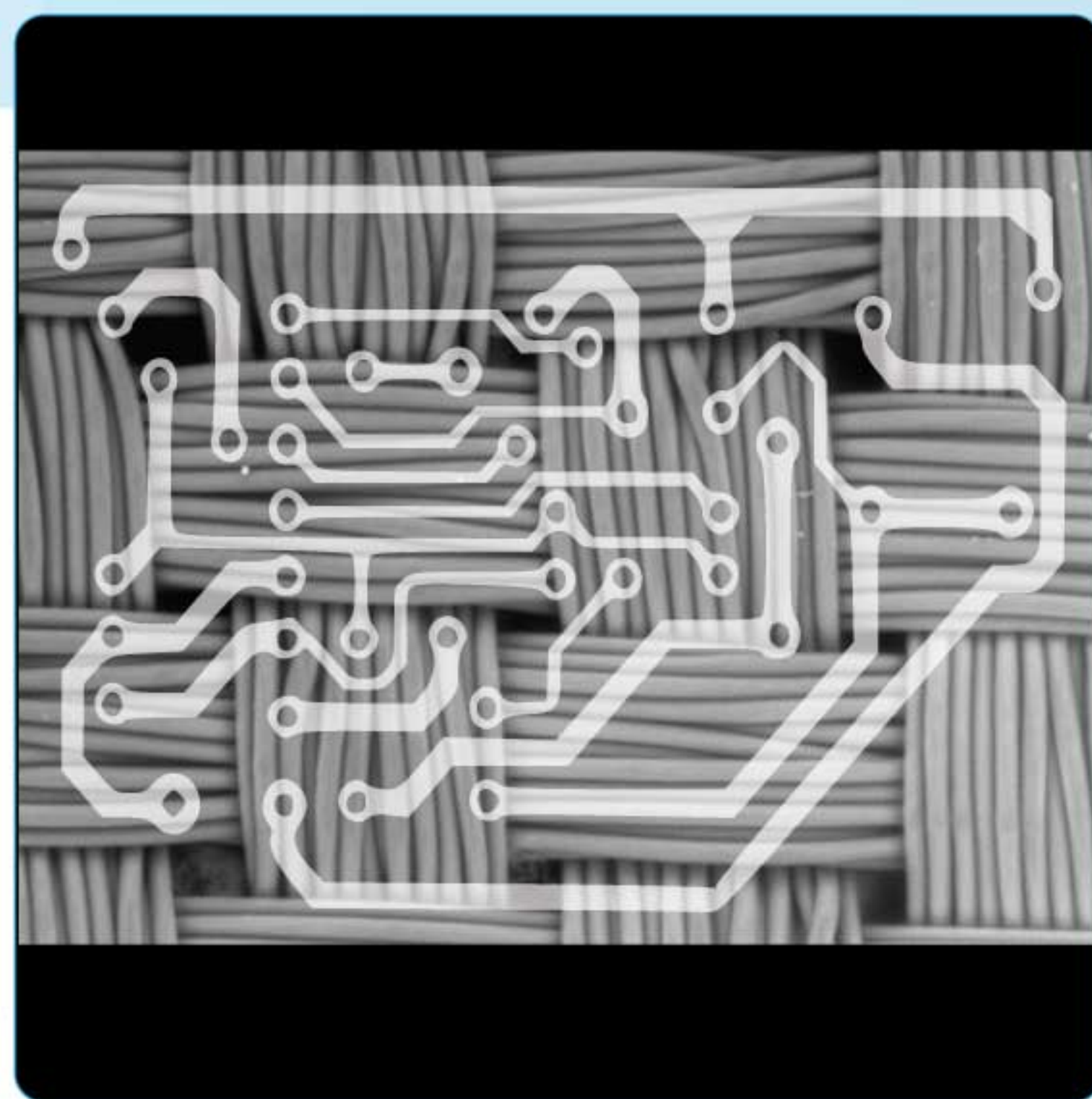
protective
equipment



waterproof
and breathable



printed
circuits

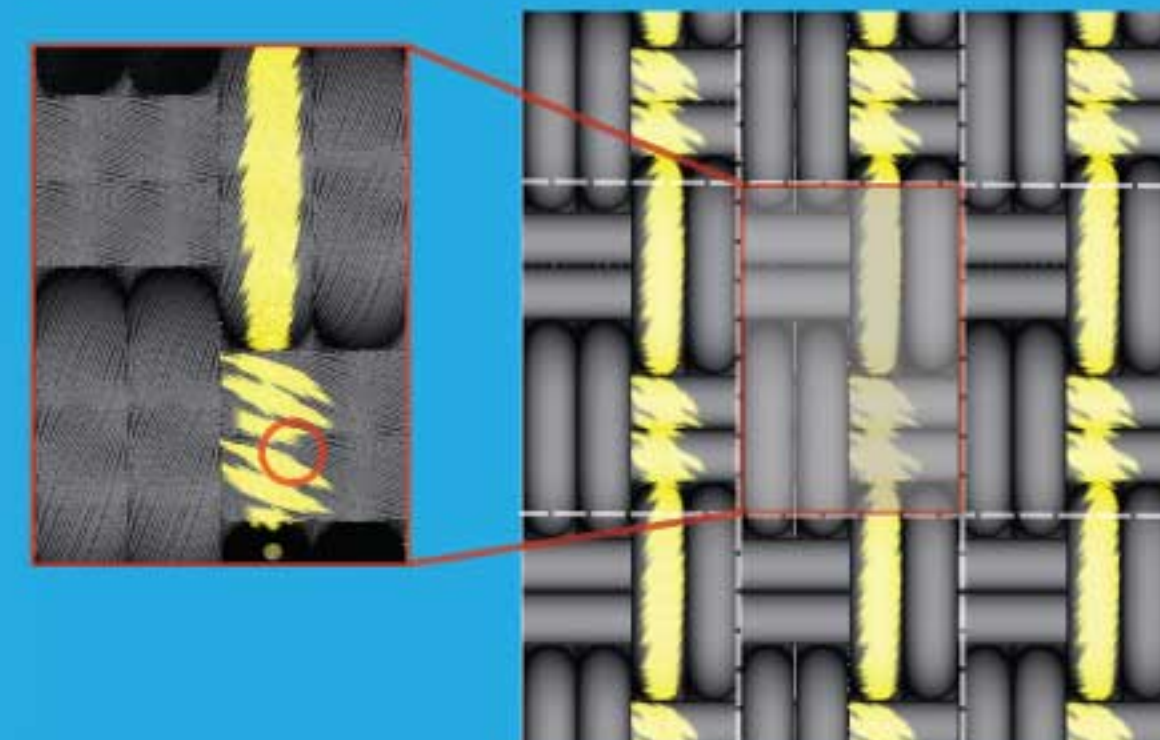
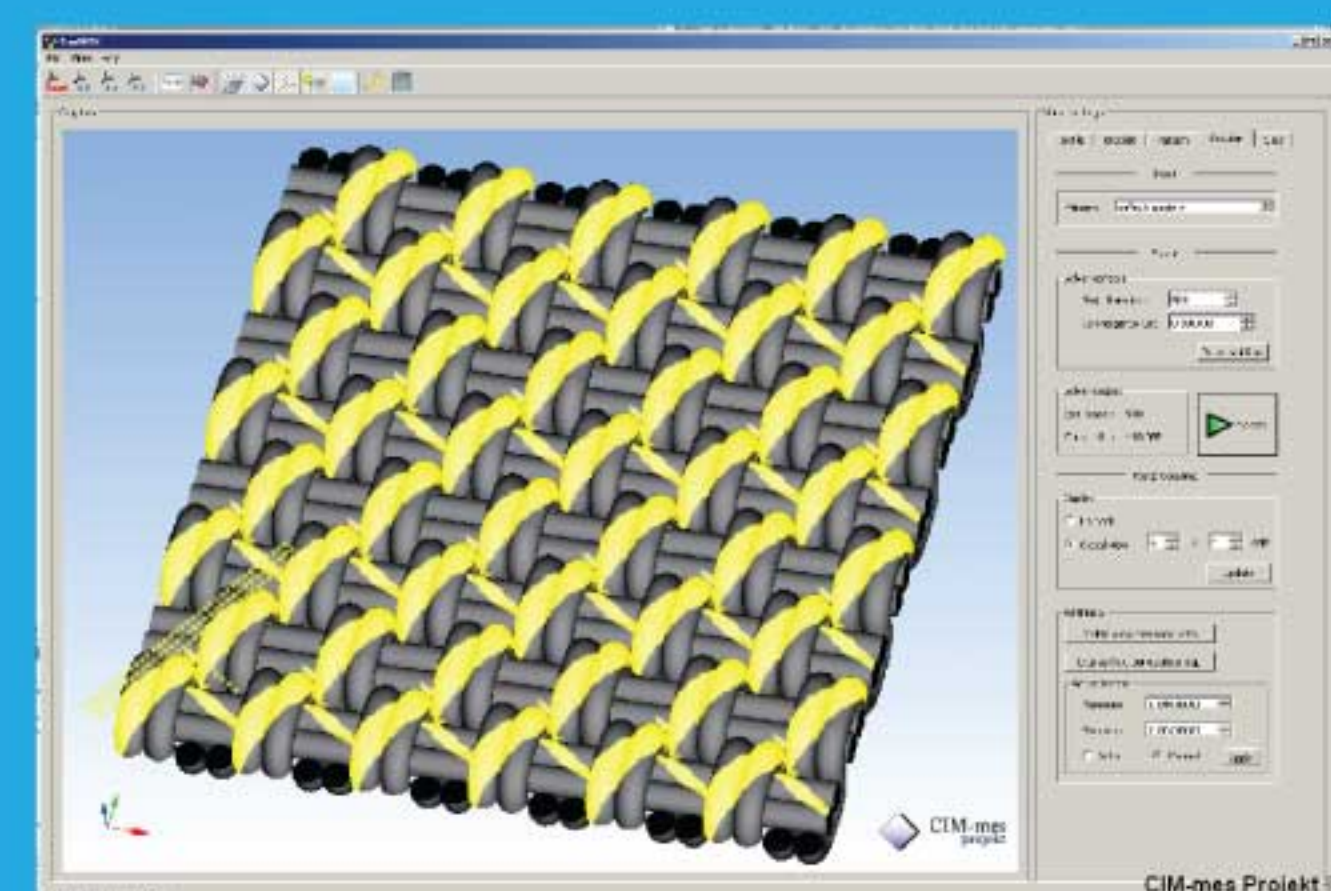
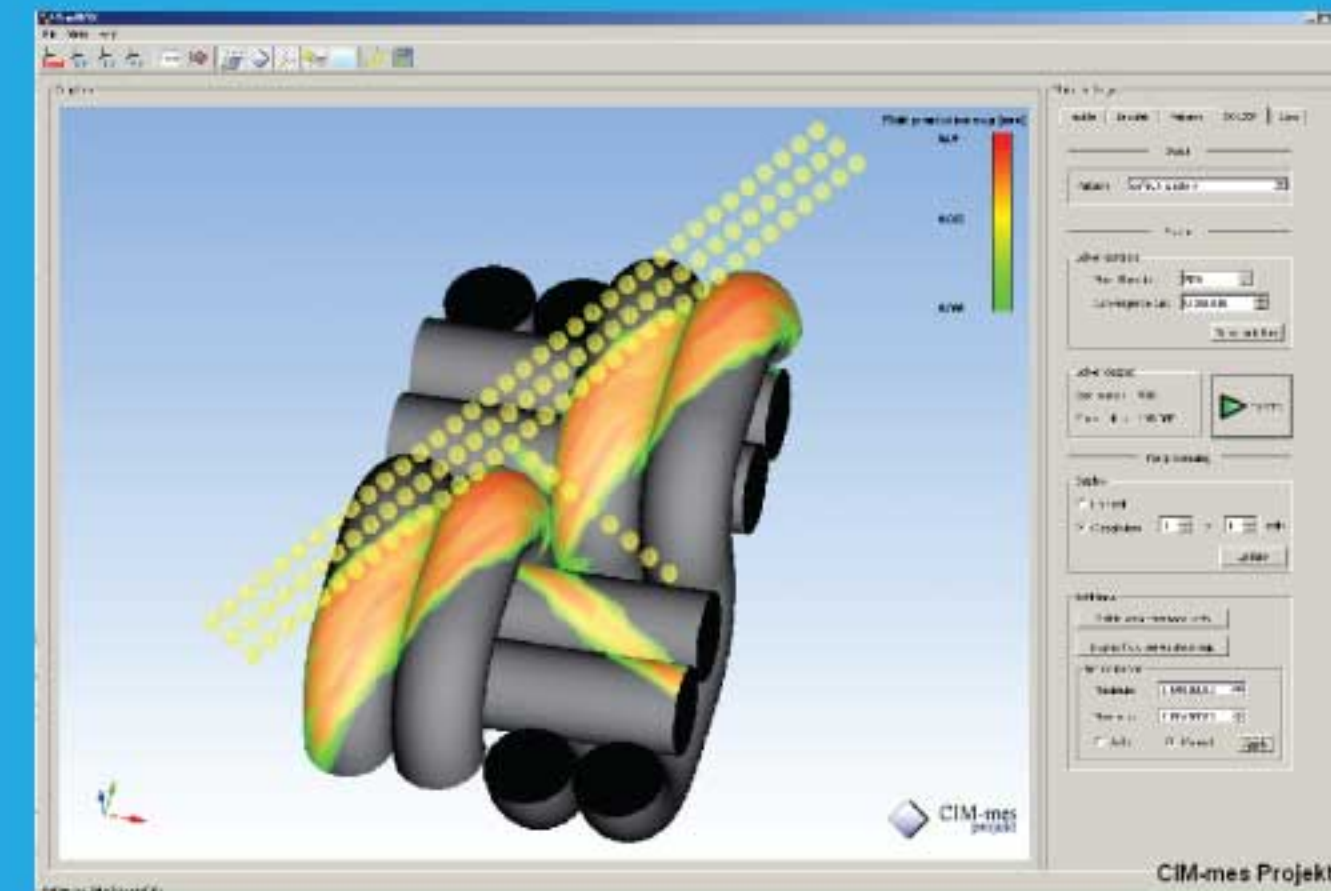
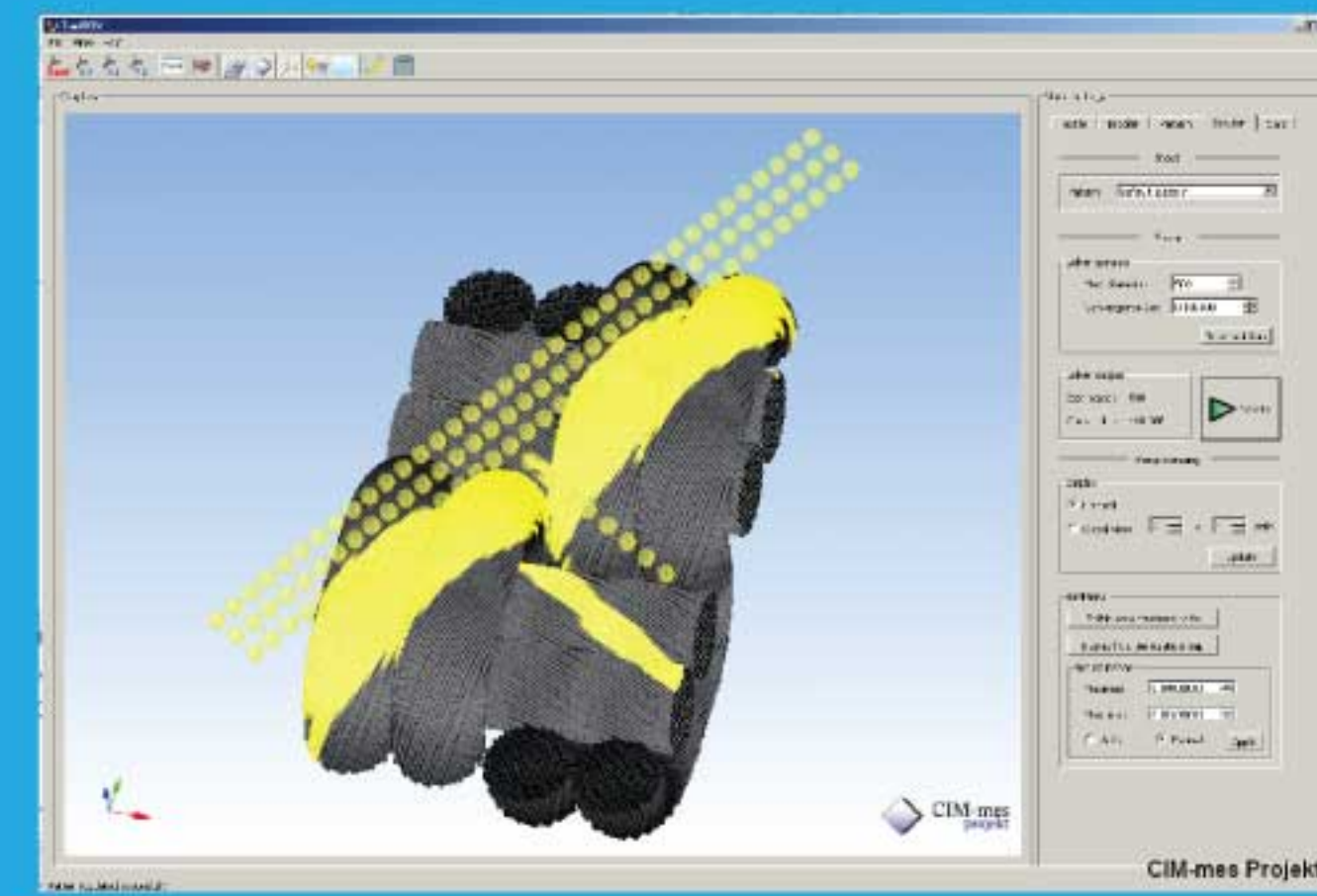


antibacterial
controlled
drug release

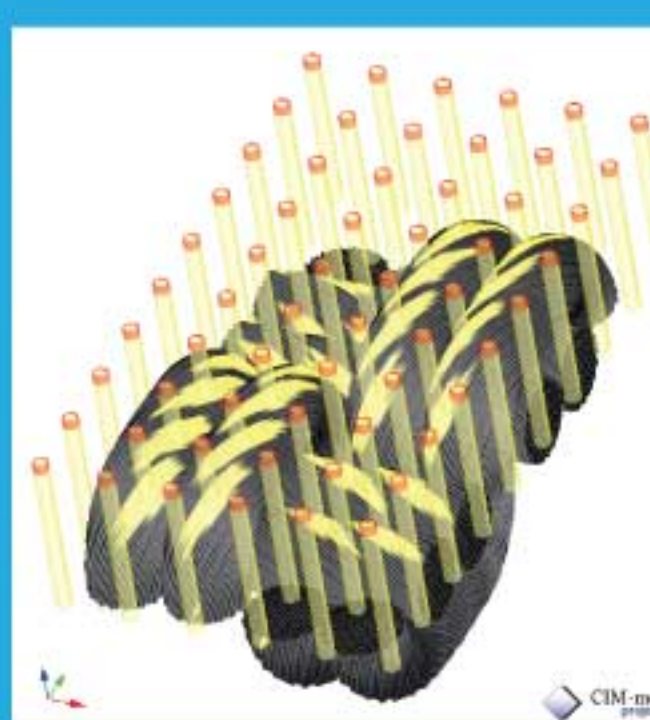


FunTeA CAD - software for textile engineers

To improve the design process numerical model of the droplet penetration into the textiles was developed and encapsulated in a form of toolbox for Functional Textile Architecture design. Results obtained with FunTeA CAD make finding of optimal printing parameters faster and enable development of novel functional textiles.



FunTeA CAD analyzes a single unit cell. Obtained results are used to predict features of the functional textile.



Numerical model includes capillary effects and interactions between droplets.

