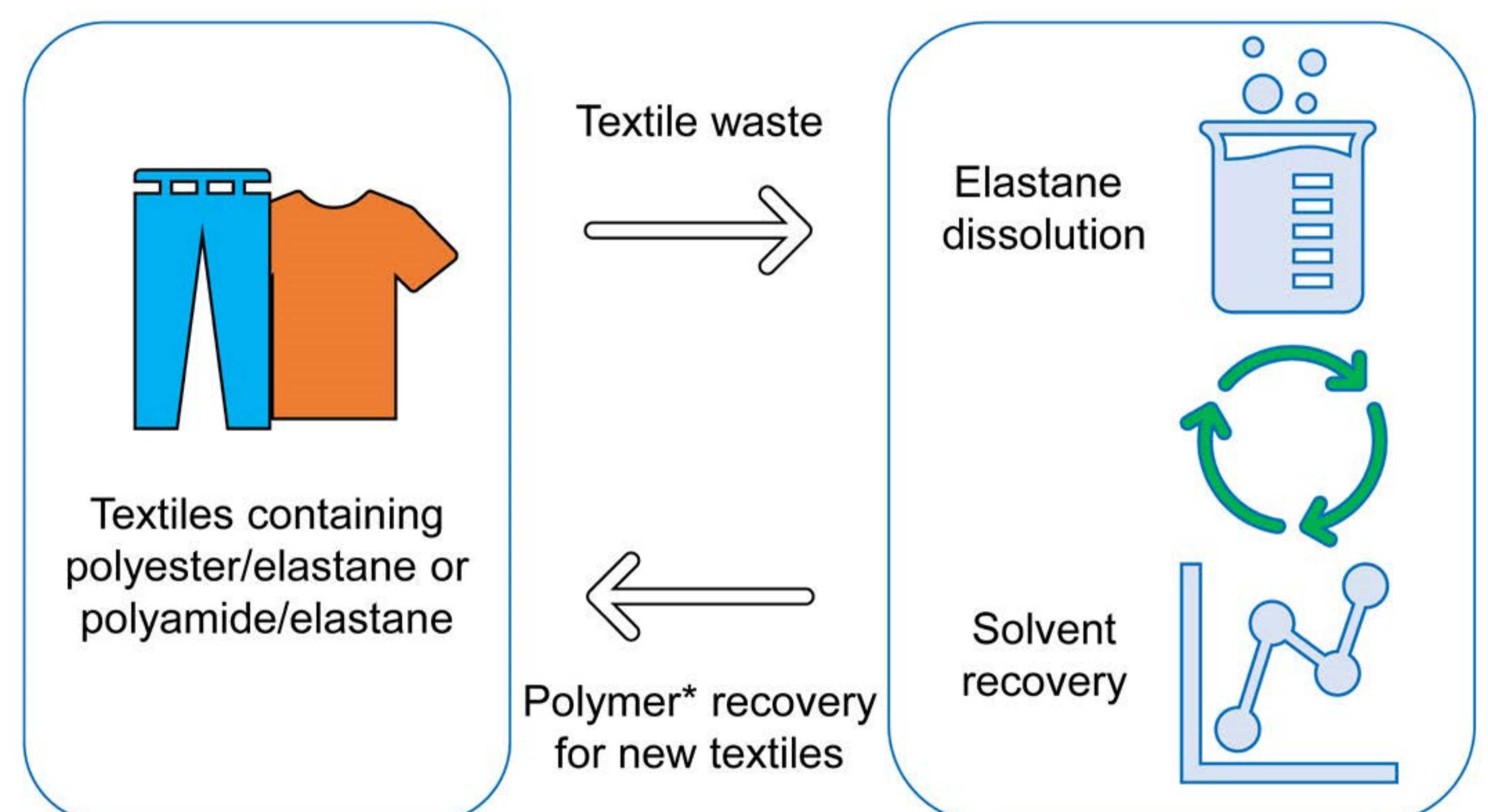


Separation Process for Elastane from Textiles

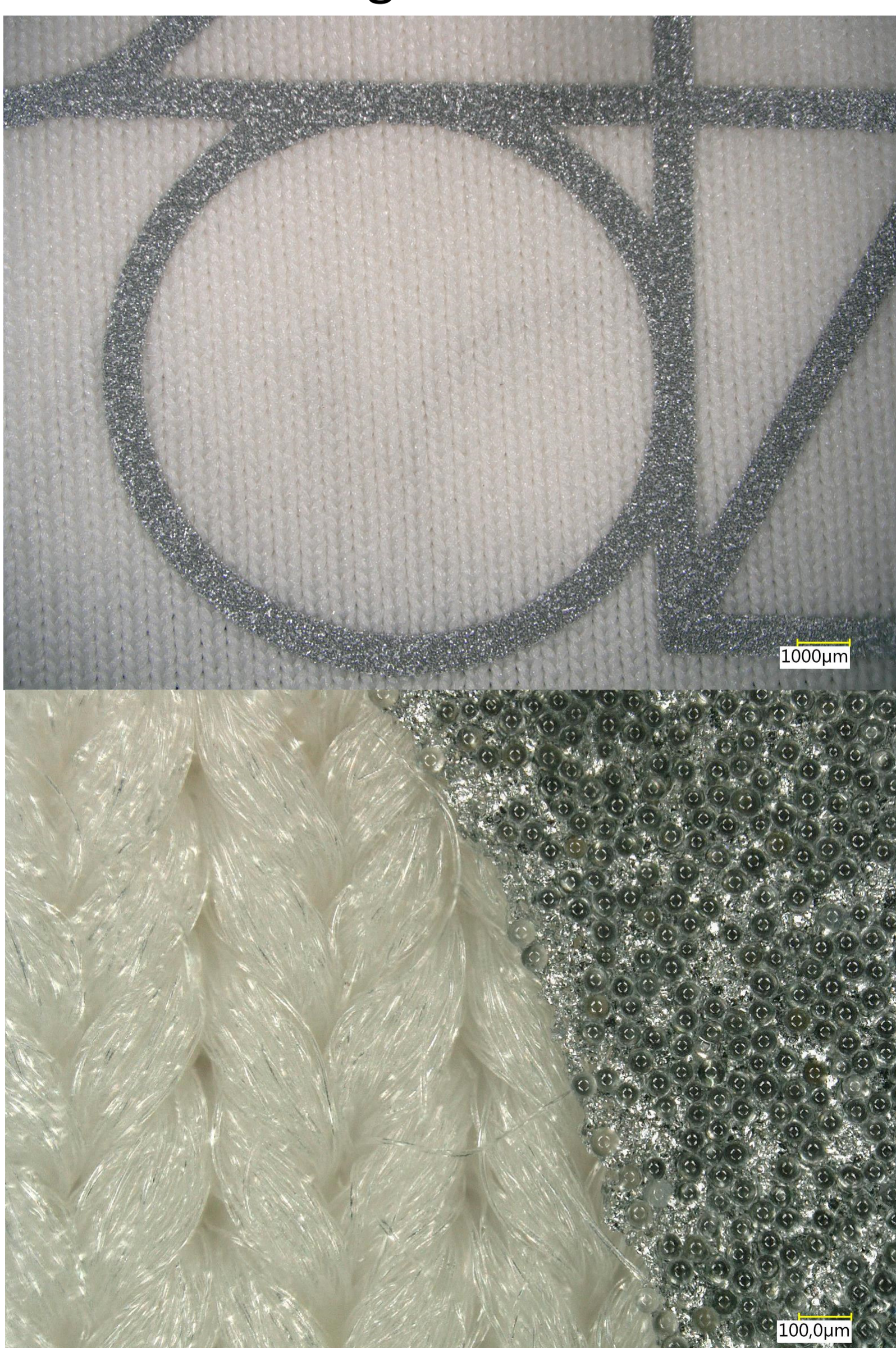
Separate elastane from textile fiber blends and mixtures by a simple and quick process. Expand your recycling portfolio to many elastane blends.

Even though elastane accounts for only about 1% of global fiber production, this fiber is contained in about 30% of all apparel textiles. However, current recycling technologies mostly require textile input that is free of elastane. Our patent pending technology allows to remove elastane from textile blends by a simple and easy procedure. The remaining other fibers are unaffected and can be directly fed into a fiber spinning process. The process has been proven to be successful in deriving pure PET from PET/EL and pure PA from PA/EL mixtures. There is of course no principal limitation to apply the invention to other textile blends, even to the separation of EL from blends with cellulosic fibers.



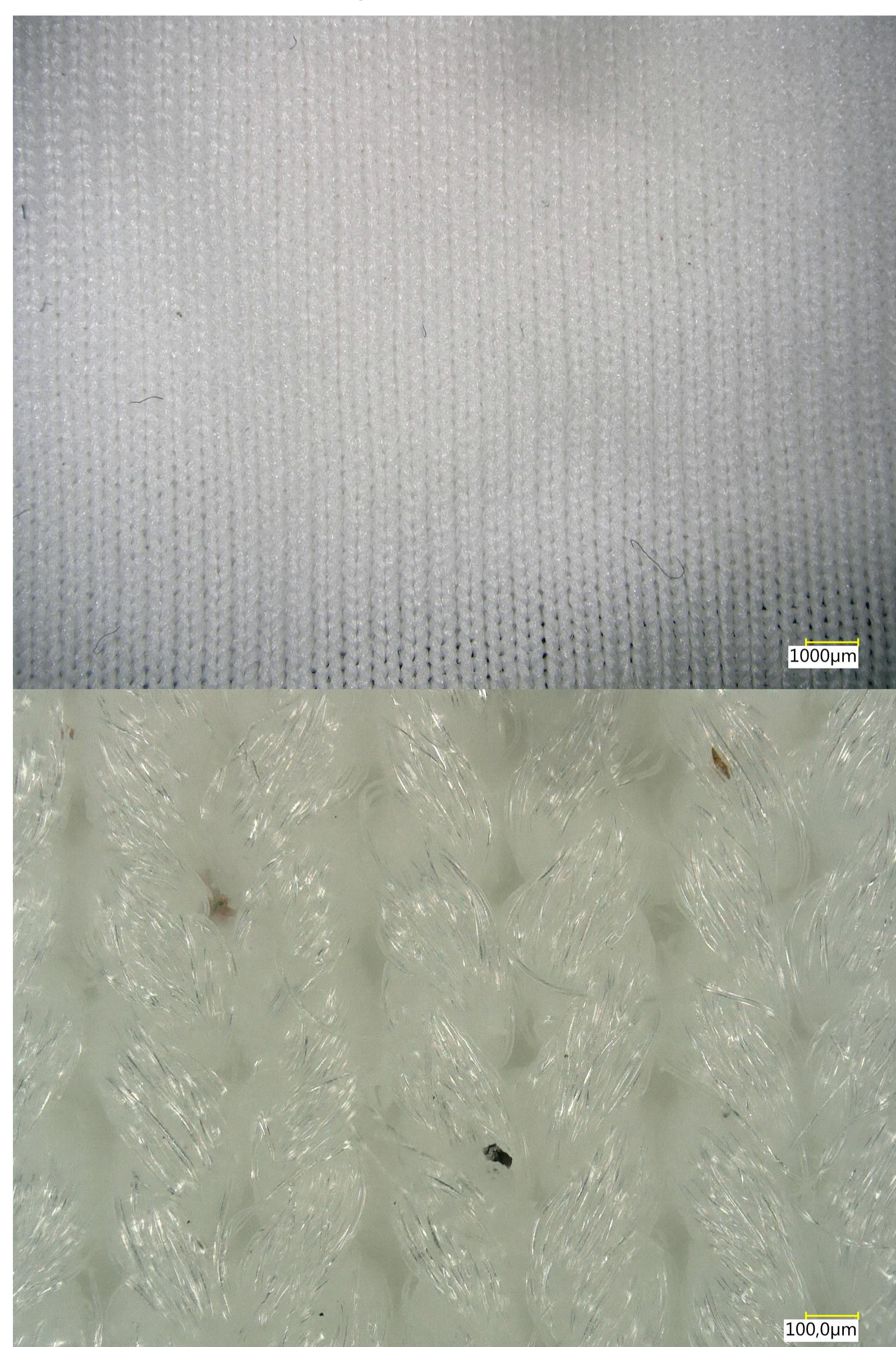
*Polyester, Polyamide, Elastane

T-Shirt, PET/EL - 87/13
including PUR laminate



Images by light-optical microscopy

T-Shirt, after treatment
pure PET



In contrast to the state of the art, we use a formulation that is not REACH listed, can be recovered within the process and also offers the advantage that the dissolved EL remains chemically unchanged. Hence, it allows to use the dissolved EL in fiber spinning.

We are looking for industrial partners to evolve our process to a commercial scale.

- ✓ Low process complexity, easy scale-up
- ✓ Non-hazardous solvent formulation, solvent can be recycled
- ✓ Compatible with conventional textile recycling processes

Patent pending (A 60020/2023)

