



New EpOxy Composite with repairing properties through dynamic CROSSlinking – NEOCROSS



Funded through



The “*New EpOxy Composite with repairing properties through dynamic CROSSlinking – NEOCROSS*” R&D project has recently started, co-funded by EUREKA member countries and the European Union Horizon 2020 Framework Programme. **NEOCROSS** aims to develop and deliver a new generation of high performance epoxy composites and adhesives with debonding-on-command capabilities. These new composites will be manufactured using traditional methods, but, unlike the current ones, they could be easily disassembled and repaired in terms of fiber/matrix delaminations, by applying heat and pressure to the damaged area.

NEOCROSS composites preserve all the advantages of conventional thermosets, while showing new unprecedented features such as easy Reparability, Reprocessability and Recyclability (3R). This is possible because they are based on a groundbreaking thermoset resin system including dynamic bonds, which enables such behavior.

NEOCROSS delamination repairs overcome most of the drawbacks of current technologies: they simply involve application of heat and pressure, through a portable repairing tool, being performed in minutes versus hours/days required in conventional repairing processes, with 100% properties recovery. In addition, the novel debonding-on-command **NEOCROSS** adhesive will permit easy separation of damaged parts under specific stimulus, to allow detaching of delaminated parts for their repair.

NEOCROSS innovations will lead to the development of faster/cheaper repair technologies for composite delaminations, either in production line or in service. This will allow recuperation of manufacturing rejected parts, while reducing costs for airlines / MROs, as well as for wind turbine operators and maintenance centers.

