cevotec

Fiber Patch Placement – enabling manufacturers to produce complex composites in high volume and superior quality

Fiber Patch Placement is the additive manufacturing technology for the automated production of geometrically complex fiber composites and curvilinear reinforcements. It enables a new degree of freedom in automated fiber deposition for complex shapes and allows for true multi-material lay-up within one system. Defined patches are automatically cut from a tape and precisely placed by two robots and a flexible patch gripper. Your component is built up additively, flexibly and in a completely automated manner.

Additive manufacturing

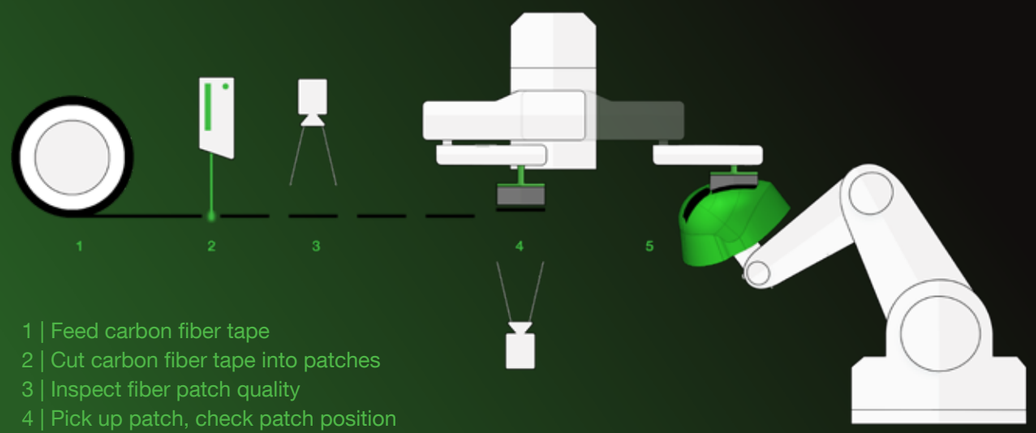
Patch technology is additive manufacturing in sensible increments, called patches. As patch sizes adjust to the size and complexity of the component, it provides the speed for mass-market applications while featuring all benefits unique to additive manufacturing such as high flexibility and superior material efficiency.

Automation platform for digital manufacturing

Similar to 3D printing, all components are digitally developed in ARTIST STUDIO software. This includes the design and the offline programming of the production system. Patch laminates can also be imported into FEM software for structural analysis. The SAMBA systems are designed for fast and easy product changes and handling multiple materials for an efficient fiber deposition on compex 3D shapes.

Your benefits

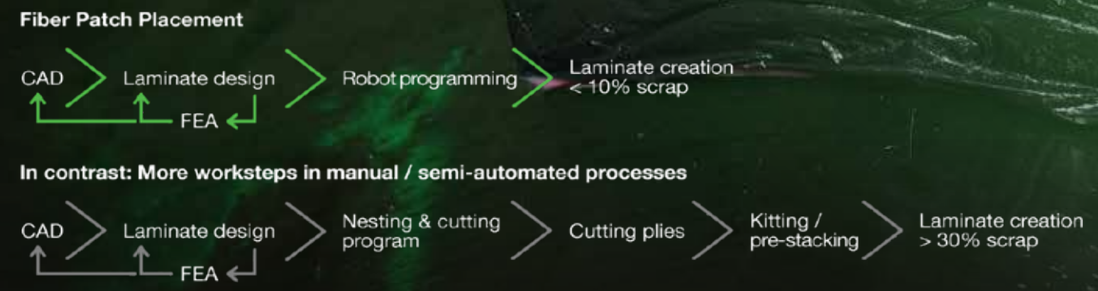
- Self-corrective, in-process quality inspection
- Multi-material lay-up capability (e.g. carbon-, glass fiber, adhesives, dry, prepreg)
- Up to 50% less material consumption, production time and cost
- Flexible automation platform: One system produces multiple parts



1 | Feed carbon fiber tape
2 | Cut carbon fiber tape into patches
3 | Inspect fiber patch quality
4 | Pick up patch, check patch position
5 | Position patch on 3D form tool

Efficient & fast processes

Compared to conventional composite processes, Fiber Patch Placement cuts the time from CAD to prototype significantly. Taking nesting, cutting and kitting out of the process, your recurring production cycle is significantly shortened and simplified. On top of that, production scrap is reduced to less than 10%. That's efficiency that inspires.



Optimized performance

Patches perfectly align to curvilinear load paths. Therefore, patch technology maximizes the performance of your parts, no matter if the basis is glass fiber or carbon fiber. Stiffness and strength increase up to 150% compared to conventional lay-ups.