

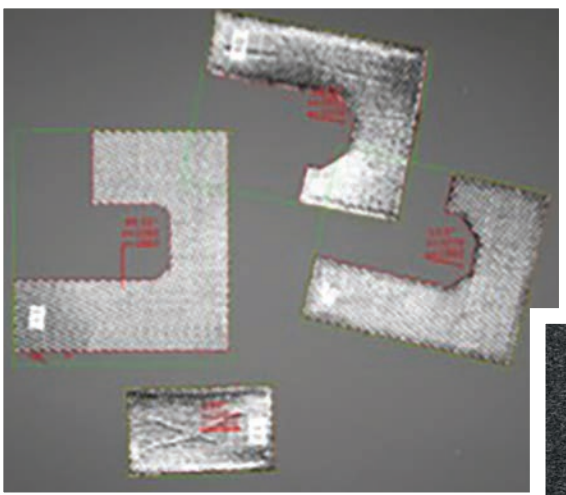
SMART CONTROL



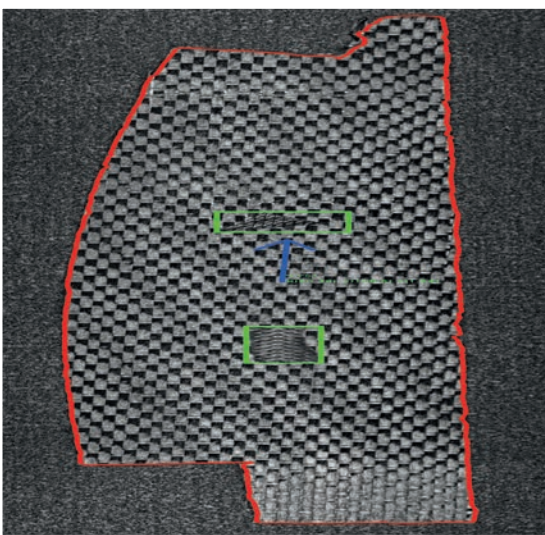
Today's product requirements are more challenging than ever. New processes and approaches are required especially for kitting, stacking and lay-up of preforms and/or composite parts. SMART Control is an automatic control solution to check in real time the conformity of the lay-up to the theoretical plan. There are currently on the market means of assistance to the lay-up (laser projection) but no solution of control of the lay-up in real time. SMART Control allows to make the lay-up more reliable and to correct it, thus reducing the number of scrapped parts.

It consists of a camera system with its lighting and plug & play software that allows control functions such as shape identification and recognition, fiber orientation control, ply positioning, gap and/or overlap detection as well as FOD and defect detection on composite materials.





Ply positioning and shape identification



FOD detection



APPLICATIONS

- SMART Control can be used in any composites sector in which high rate kitting, stacking and preform lay-up of UD or woven materials is required such as for aeronautic applications (for class 1 parts).
- SMART Control can be used in addition to SMART Pick & Place or as a stand-alone solution.



BENEFITS

- Ply identification without laser nor barcode
- Quality inspection of plies during lay-up
- Flexible (suitable for Pick & Place solution or manual lay-up)
- Fully modular system (plug & play software + camera system)



FEATURES

- Identification and shape recognition
- Control of fiber orientation with an accuracy of $\pm 0.3^\circ\text{C}$ ($\pm 0.54^\circ\text{F}$)
- Control of the plies position with an accuracy of 0.25mm (0,010 in)
- Detection of gaps and/or overlaps between 2 plies of the same layer
- Detection of FOD $> \varnothing 5\text{mm}$ (0,197 in)
- Recognition of defects on composite materials

CAC AT A GLANCE

Composite Alliance Corp (CAC) is a global tooling, machinery and service supplier offering a wide selection of standard and custom solutions in support of composite part design and fabrication. Our goal is to advise, equip and assist our customers in using cost effective advanced manufacturing processes to maximize performance and to widen the applications of composites.



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