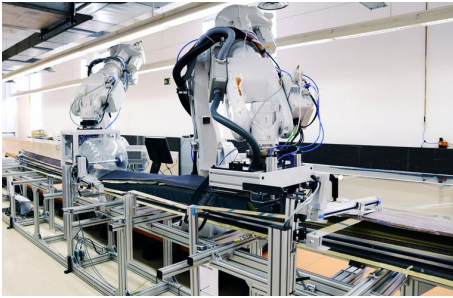


# Composites Manufacturing Solutions

A+ GLIDE FORMING: A new process for stringer manufacturing



## Challenge: Forming processes for carbon-fibre stringers with complex contours

- Stringers are widely used (4 to 6 km) in aeroplane structures to provide stiffness to the panels. In wings and certain areas, stringers must follow complex contours.
- Current technologies have low productivity and are unable to form contoured stringers without wrinkles.
- There is a need for a high productivity, automated system able to make different types of straight and contoured stringers.

## A+ GLIDE FORMING

## The revolution in stringer manufacturing

Applus+ has developed a new stringer manufacturing process to provide a versatile,

high-productivity and low-investment forming solution that overcomes the major drawbacks of existing forming technologies.

## Forming Technologies Comparison

### A+ Glide Forming Benefits

## Better Quality

- No wrinkles

## High Flexibility

- One single machine for different stringers: , T, U
- Only a new male tool is needed to manufacture an additional stringer

## Cost Saving

- OPEX: highly automated, low labor cost
- CAPEX: only one machine, very simple tools

## Environmentally friendly

- Local heating: no heating tools, energy saving compared to current technologies
- Less scrap material

Contoured formed L and