



**A350XWB PREFAL
AIRCRAFT ASSEMBLY IN NEW DIMENSIONS**



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Toulouse – In 2009 Airbus SAS placed an order with the consortium of MCE-Areva-ECACNAI to assign multiple assembly lines for the whole PreFal (Pre-Final Assembly Line) for the entire fuselage of the new Airbus Aircraft A350XWB.

Within this whole scope MCE was responsible for the realisation of the Equipment Pulse Line Section 13-14 as well as Section 16-19 both situated in Hamburg and the structural assembly of Section 13-14 in Nordenham as well as Section 16-18/19 in Hamburg which will be described in more detail below. In addition to the positioning stations also finishing stations for the completion of the riveting, customer stations for inspection and preparation stations for Section 19 were part of the scope.

Complementary to the usual requirements such as work safety, ergonomics and accessibility there was a completely new way of how to assemble the parts and to reach the necessary accuracy remarkably influenced by the all new carbon fibre reinforced panels of the A350XWB.

MCE developed the so called „Measurement Assisted Assembly - MAA“ process to fulfil this challenging requirements. That means that all parts – upper shell, lower shell, side shell LH/RH, floor grid, cargo floor - (with a length of up to 18m and a height up to 6m) which were brought into the assembly line by presentation frames were fully automated measured by two laser trackers. After the comparison with the nominal data, the components are automatically moved to the setpoint position using up to 25NC axes. With this method a positioning accuracy of 0,1mm and a repeatability of 0,1mm are reachable per axis by saving time for adjusting in comparison to standard manual processes.

In addition to this technological challenge we also had to meet all qualitative and scheduling requirements given by Airbus.

Thanks to our excellent team, we were able to meet all these criteria to the full satisfaction of Airbus.

Facts & Figures:

n° of NC-Axis:	382	Tolerances per axis:	0,1 mm
n° of laser tracker:	23	Customer: :	AIRBUS S.A.S.
n° of measured targets:	150 (finishing station) up to 250 (positioning station)	Project period:	2009 - 2017 (incl. extensions)

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