GEBE2

Europe Technologies group

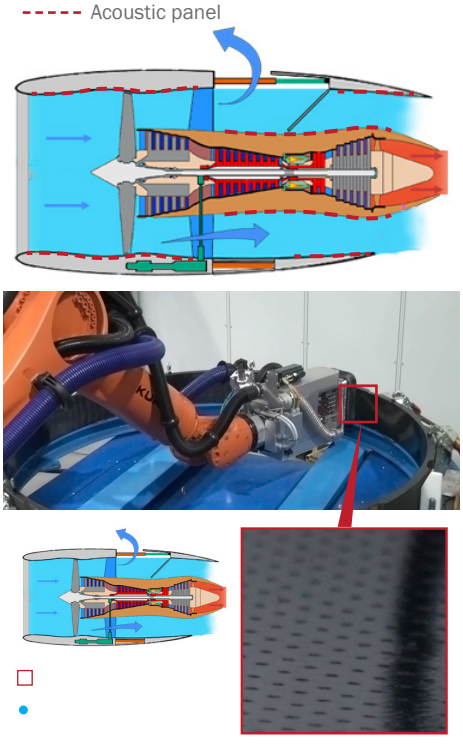
ROBOTIZED ACOUSTIC DRILLING FOR COMPOSITE

ACOUSTIC DRILLING SOLUTION FOR COMPOSITES PANELS OF AIRCRAFT NACELLE

Since years, GEBE2 stands as a leader for robotic drilling of acoustic panels dedicated to aircraft nacelle.

The production of holes is made with drilling effectors equipped with multispindle such as cutters or drills. This is a proven process that can be applied on composites (monolithic skin and sandwich panels). Our effectors, the most compact on the market, can access areas on complex parts.

The objective of this operation is to reduce the noise of aircraft engines : the cold air vein is covered with acoustic panels that absord sound waves. These in-between panels consist of a honeycomb core and a pierced skin. Each hole opening into an alveolus plays the role of a Helmholtz resonator.

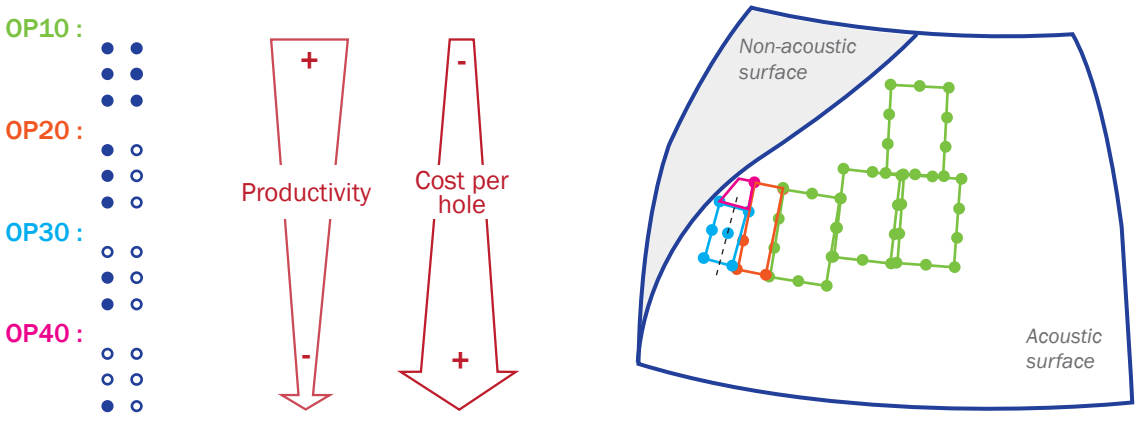


MULTISPINDLE EFFECTOR PRINCIPLE

In order to increase productivity, it is possible to set up numerous spindles on one effector. The composition of the effector is a main step that requires a techno-economic analysis, thus optimizing the cost of the part in accordance with the client's needs.

DISTRIBUTION OF HOLES ON A PART

The distribution of holes requires to divide step by step the drilling process in order to reduce the number of drill bits during production.



The drilling in OP40 area is to be discussed : cost of manufacture / acoustic performance.

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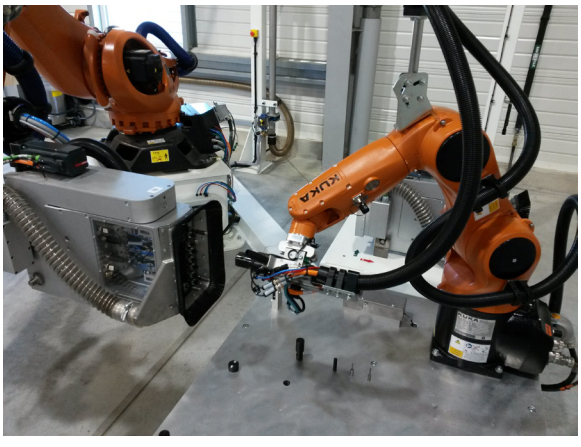
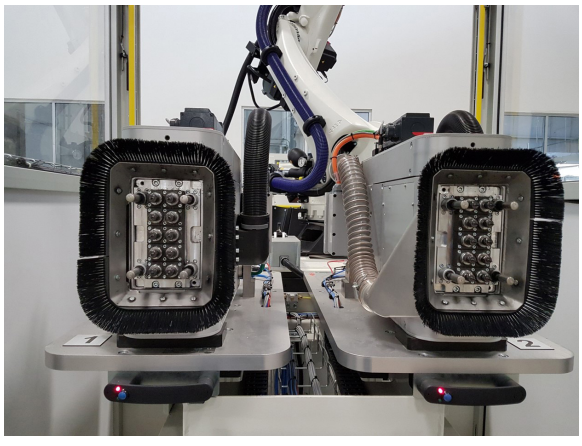
AUTOMATIC DRILL BIT CHANGEOVER

This system saves operator time and secures high production rate. The drill bits are replaced by a robot equipped with a specific tool.

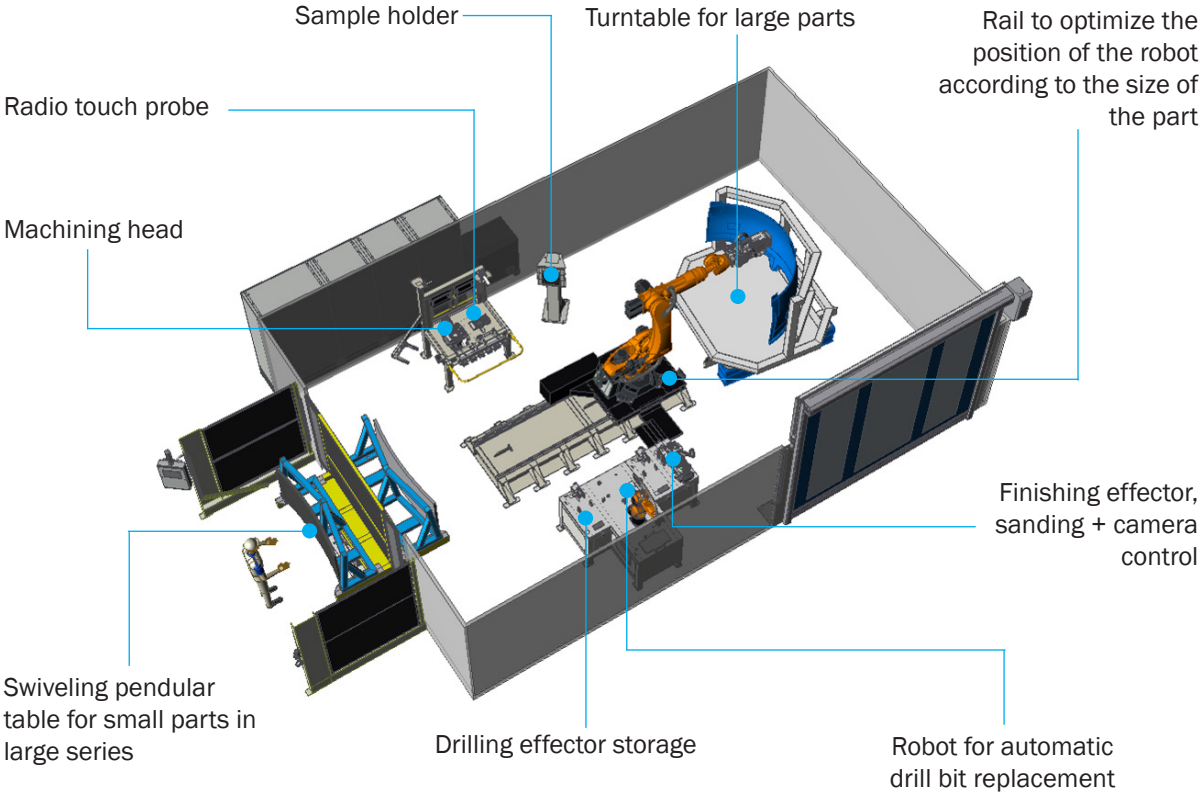


Automatic drill bit changeover



Automatic effector exchange
for manual drill bit replacement.

MULTIFUNCTIONNAL ACOUSTIC DRILLING CELL



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