

# Airbus researches shape-shifting wing

Airbus is researching an “extra-performance wing” capable of changing shape during flight, as part of efforts to make future aircraft more efficient and reduce carbon emissions

Artist's rendering of extra-performing wings



Wing demonstrator will be tested on **Cessna Citation VII** business jet

**“Gust sensors”**: Measure turbulence so wing control surfaces can automatically adjust, reducing need for aircraft to make detour

**Turbulence**



**Sensors**

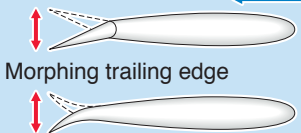
Demonstrator conducted under Airbus' flying-tech subsidiary, **UpNext**

## Multi-functional morphing trailing edges

Dynamically change shape of wing during flight to improve overall aerodynamic efficiency of aircraft

### Wing section

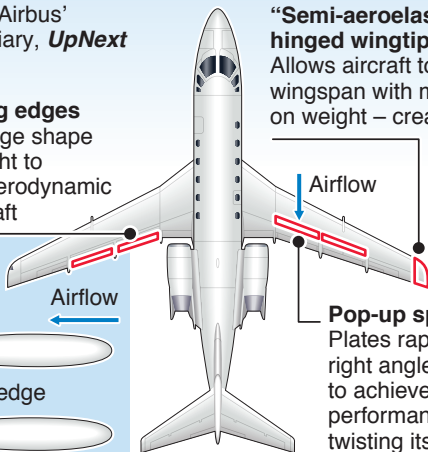
Conventional hinged flap



### “Semi-aeroelastic” hinged wingtips

Allows aircraft to have longer wingspan with minimal impact on weight – creating less drag

Folding wingtips also allow large aircraft to fit inside standard airport gates



### Pop-up spoilers

Plates rapidly deflect at right angles to airflow, to achieve optimum performance – like a bird twisting its feathers