

INPUT

Aircraft

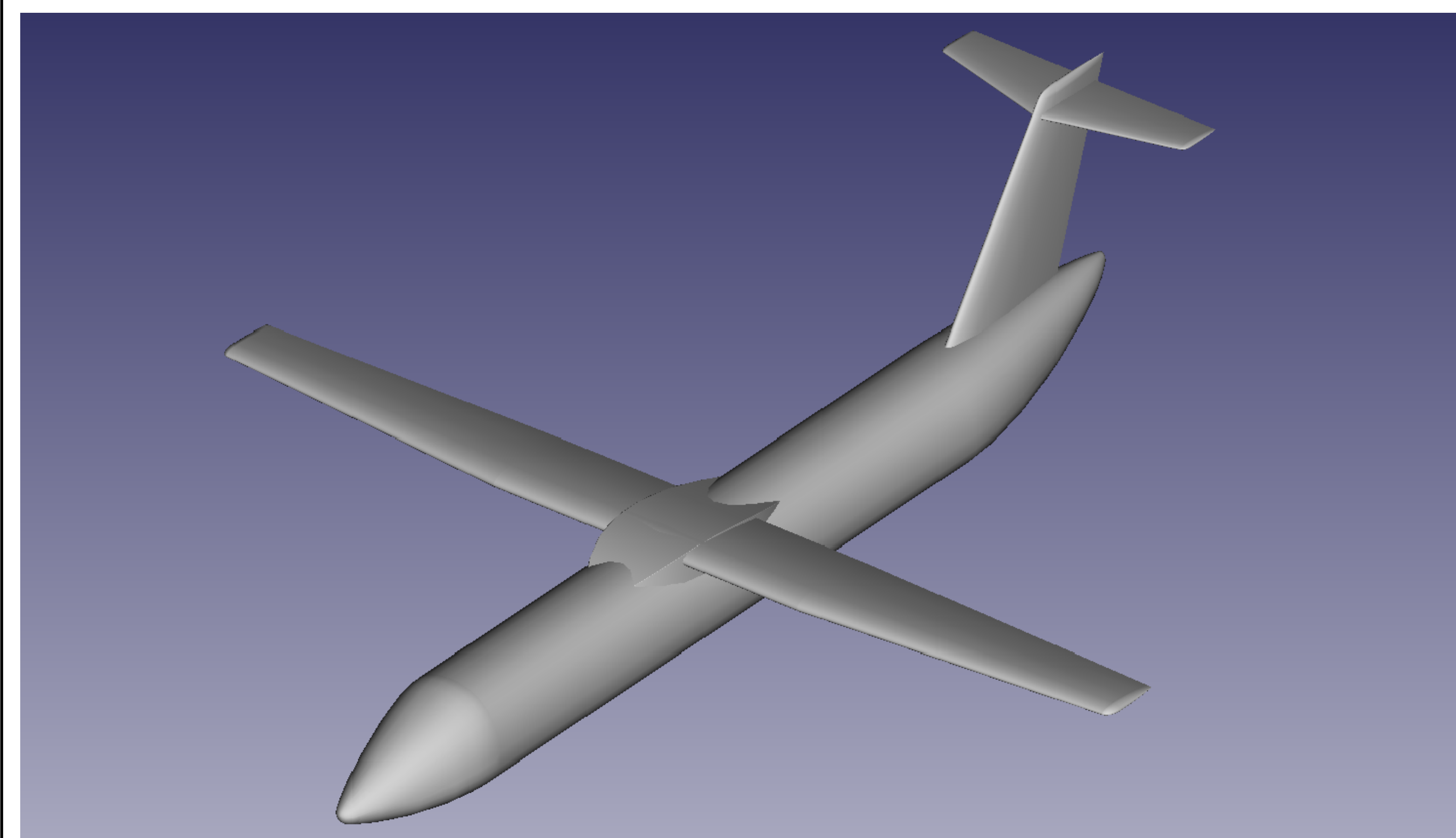
engines
cabin configurations
fuselages
lifting surfaces
landing gears
nacelles
systems

Operating Conditions

Analysis

analysis_weights
analysis_balance
analysis_aerodynamic_and_stability TAKE-OFF
analysis_aerodynamic_and_stability CLIMB
analysis_aerodynamic_and_stability CRUISE
analysis_aerodynamic_and_stability LANDING
analysis_performance
analysis_costs

JPADCAD



OUTPUT

.brep .step .igs

JPAD CORE

Analysis disciplines

WEIGHTS

Components weight estimation

BALANCE

Xcg, Ycg, Zcg
Balance diagram
Inertias (Ixx, Iyy, Izz, Ixz)

AERODYNAMIC AND STABILITY

LIFTING SURFACE

LIFT

3D Lift curve
Lift distributions
Stall path

DRAG

Polar curve
Drag distributions

HIGH LIFT DEVICES & CONTROL SURFACES

2D & 3D effects
3D Lift curve

PITCHING MOMENT

3D moment curve
Aerodynamic Center
Moment distributions

FUSELAGE & NACELLE

DRAG

Polar curve

PITCHING MOMENT

3D moment curve

AIRCRAFT

DOWNWASH

Downwash gradient
Downwash angle

BUFFET BARRIER

TOTAL LIFT CURVE

TOTAL POLAR CURVE

TOTAL PITCHING MOMENT CURVE

LONGITUDINAL STABILITY

LATERAL STABILITY

DIRECTIONAL STABILITY

DYNAMIC STABILITY

PERFORMANCE

Take-Off
Climb
Cruise
Descent
Landing
Mission Profile Analysis
Payload-Range
V-n Diagram

COSTS

Capital D.O.C.
Crew D.O.C.
Fuel D.O.C.
Charges D.O.C.
Maintenance D.O.C.

OUTPUT

.xlsx .csv
.png .svg

JPAD Aircraft component

Analysis discipline