

# BRING YOUR FLIGHT DATA TO LIFE

FLIGHT ANIMATION SYSTEM FOR  
INVESTIGATION, COMMUNICATION  
AND PILOT TRAINING



**100+**  
**CLIENTS**

The most widely used software to quickly produce advanced animations of data from flight recorders



# HOW TO ENHANCE FLIGHT SAFETY?

Flight data analysis in its primary form, e.g. statistics, tabular data and plots, is essential. However, figures can only give a **limited perspective** of an event, usually rough and leading to a partial understanding. Pilots don't fly spreadsheets!

*How was the information displayed on the instruments? Which aural warnings were triggered? How could they be perceived and interpreted by pilots? How did the weather conditions look like? What impact may they have had on workload and stress? Did the flight crew really have time to react? In short, which difficulties were the pilots facing?*

Humans must be placed at the center of analysis. That's why investigators from flight safety teams need an approach that goes beyond a purely mathematical and logical method provided by FDM/FOQA systems. It is necessary that this state-of-the-art approach allows for understanding both the **human-machine interface** and **human factors**.



# THE WORLD'S MOST WIDELY USED FLIGHT ANIMATION SOFTWARE

For this, investigators and analysts need:

- a tool integrating realistic visual/aural elements and reproducing the **dynamic of the flight** in order to provide a concrete notion of time to each sequence of events (reaction time, workload, etc.). This enables one to get another point of view with previously unexpected information;
- a tool to get closer to the reality of the flight so as to add **subjective elements** to the analysis, still based on real facts, allowing one to understand better how pilots react when confronted with an event and which difficulties they are coping with;
- a tool enabling **efficient communication** within flight safety teams for a rich and fruitful exchange, each member being able to explain quickly her/his vision;
- a tool to visually **debrief** on events with pilots, allowing them to understand better what they had in mind as well as let them comprehend their possible mistakes;
- a tool to raise efficiently and quickly the **management awareness** concerning problems that need rapid action;
- finally, a tool allowing training departments to develop **learning material** based on real facts from the airline. **Prevention** is the most cost-efficient way to enhance flight safety!

**CEFA Aviation has been developing for more than 20 years a flight data animation software that aims to meet all of these requirements. This is how this tool is now used by more than 100 customers worldwide.**

**CEFA FAS (Flight Animation System)** is a software:

- which recreates phases of flights for analysis purposes in **high-fidelity** animations based on actual flight recorder data (raw-data and **from FDM software export**)
- with **type-specific cockpit**, advanced flight instrument panel,
- external 3D views of the aircraft and 3D terrain & scenery views
- for **all phases** of flight as needed: take-off, landing or other moments like go-arounds, events...

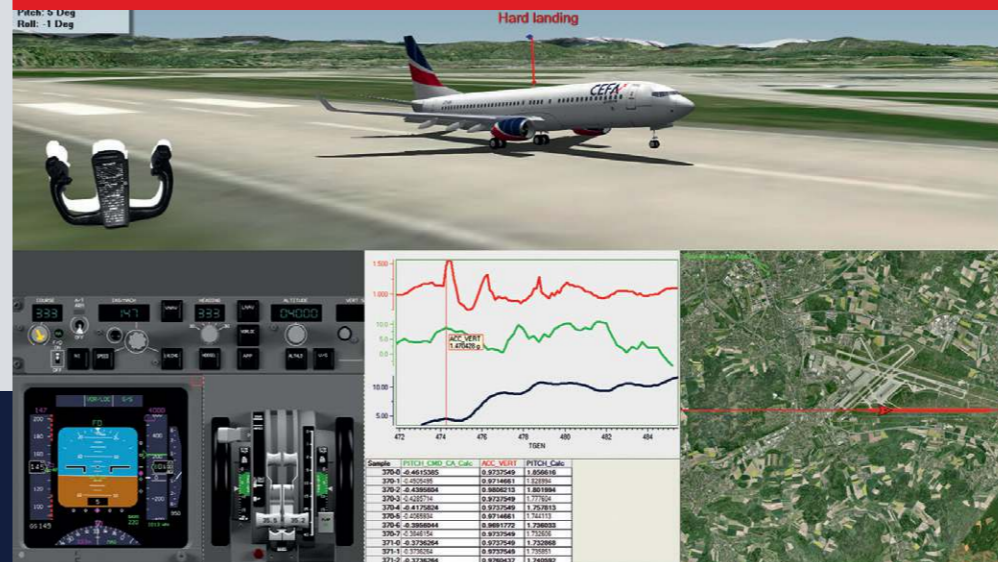


# FEATURES THAT MAKE THE DIFFERENCE

## REALISTIC

To live the flight again in the pilots' shoes

- complete & precise **cockpit display** of more than 30 aircraft types – ready to use
- aural warning, callouts and engine **sounds** ("traffic", "descent", "400, 300...")
- animated pilot hands & flight controls
- **3D high-resolution terrain**, worldwide satellite imagery & airports
- automatic display of **METAR** & integration of the reported weather and visibility conditions into the 3D animation – up to many different types of clouds!



## ANALYTICAL

To better examine and understand flight sequences

- **data plotting** of all possible flight parameters synchronized with 3D animations
- **navigation chart** viewer with the possibility to overlay on the flight paths, events, instant values of selected parameters (event, speed...)
- **events overlay**: display of the sequence of incidents directly inside the 3D animation
- possibility to color the **flight path** according to parameters of choice which can be adapted to the company's SOPs (e.g. stabilization criteria,
- take-off rotation technique, crosswind decrab execution)
- **trajectory** toolbox and automatic adjustment

## DIDACTICAL

To be used for training purposes and dissemination of safety messages

- **video studio**: montage station to show best and worst practices based on real-life situations, including the display of all kinds of charts and the possibility to highlight animated control parts
- numerous cameras, AOA animation display, turbulence influence, wind/drift in 3D overlay: among others, for precise airport familiarization, recurrent training, and to
- address specific issues



# IN SHORT...

20+  
YEARS OF  
EXPERIENCE

100  
CLIENTS

## 1 STRENGTHS

- **turnkey** solution: ready to use and adapted to your fleet
- **qualitative & accurate** animations
- **quick**: only a few clicks needed to make an animation!
- **powerful & user-friendly**: intuitive interface with a cutting-edge technology
- **reactive & gold-standard support** with one face to the customer
- **robust & reliable**: a unique expertise in aircraft systems and software engineering & in-depth understanding of the complexity of flight data thanks to 20 years' experience

## USAGE

- rapid safety analysis
- on-site and remote debriefings with pilots (thanks to CEFA FAS-E)
- root-cause investigation
- incident communication
- pilot training | airport familiarization
- SOPs / best practices
- special airports approaches
- maintenance
- aircraft manufacturers

15 MILLIONS  
FLIGHTS ANALYZED  
BY ALL CEFA  
AVIATION'S SOFTWARE  
USERS YEARLY,  
GIVING A UNIQUE  
RELIABILITY

30+  
DIFFERENT  
AIRCRAFT  
TYPES



## CUSTOMER BENEFITS

- **efficiency**: animations generated in high speed enabling rapid FDM/FOQA
- event validation
- **easy to understand animations** for anyone: perfect communication tool to share experiences | evidence to make the right decisions | enhanced understanding of complex situations
- **improvement of situational awareness** for safety analysis | feeling of living the flight again
- **SOP compliance** for improved safety | **airport familiarization** | **maintenance**
- support for easier aircraft incidents and accident **investigation**
- better awareness of **safety issues** among flight crews and airline management
- possibility to shift the investigation focus **between human and machine**

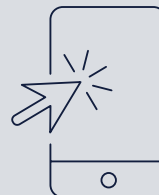
## About us

CEFA Aviation, a privately held French company, enhances pilot training and flight safety, developing **world-leading 3D animation software** and services for the past 22 years.

The innovative solutions developed by its experts recreate flights with high detail and accuracy based on data from aircraft flight recorders.

100 major and regional airlines, cargo operators and investigative authorities on five continents are using the core software of the company, **CEFA FAS (Flight Animation System)**, for safety analysis and pilot training.

CEFA Aviation is an ISO/IEC 27001:2013 certified company.



**Request a demo now !**  
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N°FR072772