

The logo for CEFA FAS, featuring the word "CEFA" in a large, dark blue, sans-serif font, with "FAS" in a smaller, red, sans-serif font below it. A dark blue triangle is positioned to the left of the text.

FLIGHT SAFETY | INVESTIGATION | PILOT TRAINING
FDM | FOQA

BRING YOUR FLIGHT DATA TO LIFE

The **most widely used** software in the world
to quickly produce advanced animations of
data from flight recorders



REACH FOR FLIGHT SAFETY EXCELLENCE

CEFA FAS, THE FLIGHT DATA ANIMATION REFERENCE



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 which goes beyond a purely mathematical and logical method provided by FDM/FOQA systems. It is necessary that this state-of-the-art approach allows to understand both the **human-machine interface** and **human factors**. 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, work load, 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 better understand how pilots react when confronted with an event and which difficulties they are coping with;
- a tool enabling an **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 to better understand what they had in mind as well as to let them comprehend their possible mistakes;
- a tool to raise efficiently and quickly the **management awareness** concerning problems which need a 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 20 years a flight data animation software which aims to meet all of these requirements. This is how this tool is now used by more than 90 customers worldwide.



THE WORLD'S MOST WIDELY USED FLIGHT ANIMATION SOFTWARE

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...





TESTIMONIALS



Lufthansa

“ Besides using CEFA FAS for maintenance teams, I find that it even helps for an audience which has no aviation expertise at all. Visualizing the data supports everybody’s understanding and creates a shared ‘mental model’. And CEFA FAS is clearly the gold standard when it comes to FDM visualization! ”

Julian Oehling, Flight Safety Specialist, Airline Pilot

“ The main advantage of CEFA FAS is its ability to reconstruct a sequence of events and to combine a large amount of data/information in a visual manner. We use the software widely in daily flight data analysis, to snapshot parameters in specific positions and timeframes, and in debriefings with flight crews to better understand the dynamics of the flight and to quickly provide context and clarity to the events. The continuously improving focus and a helpful technical support team also contributes to make CEFA FAS our number one choice in Flight Data Animation. ”



Tiago da Silva Carvalho, FDM Safety Engineer



“ An important advantage of CEFA FAS is that it is very reactive and quick. Flight data animation allows us to recognize and analyze a lot more information about previous flights in a very short time. When we only look at graphs from our Flight Data Monitoring system, it is difficult to see and interpret so many data at once. Now with CEFA FAS, we can live again the flight as if we were in the pilot’s skin and make sure not to miss any detail. ”

Captain Juan Carlos Gonzalez Curzio, Senior Vice President Flight Safety

“ We chose the CEFA FAS software because it meets all our requirements. Primarily, animating the flight data makes it easier for us to communicate the results of our investigations, which is an integral part of our missions. With CEFA FAS, we are able to create better reconstructions of the flights we analyze and understand faster what caused the problems by highlighting the sequence of the pilots’ actions and the technical incidents and faults. ”



Rémi Jouty, Director

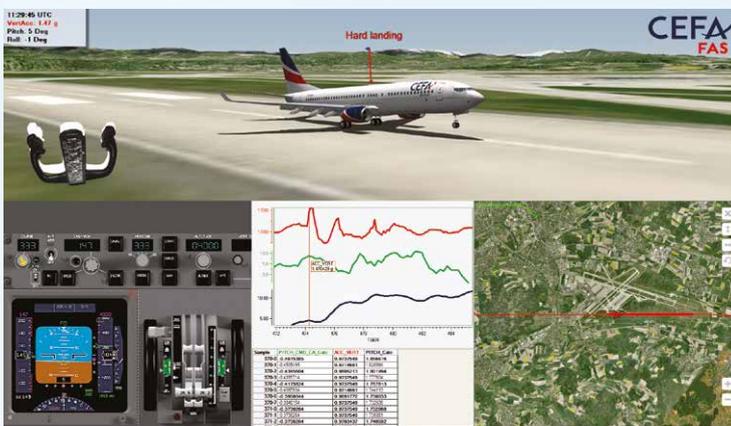


FEATURES THAT MAKE THE DIFFERENCE



REALISTIC - To live the flight again in pilots' shoes

- complete & precise **cockpit display** of more than 30 aircraft types – ready to use
- aural warnings & engine **sounds** ("traffic", "descend", "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 them 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

CEFA FAS : often imitated... never matched!



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
- a 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 a 20 years' experience



USAGE

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

FOR WHOM?

- safety experts and investigators in airlines (from regional to major, including LCC, cargo & charters)
- investigation bureaus
- aircraft manufacturers



AND ALSO...

A **training** led by the software developers themselves in a beautiful French region or in-house!



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 **for safety issues** among flight crews and airline management
- possibility to shift the investigation focus **between human and machine**

3D animation creates an experience like being in the cockpit

KEY FIGURES

20 years experience

40% of turnover invested
in **R&D**

90+ clients

15 million flights analyzed by
all CEFA Aviation's software users
yearly, giving a unique **reliability**

30+ different cockpit types

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 20 years.

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

More than 90 clients, from regional to major airlines, cargo operators and investigative authorities on five continents are using the core software of the company, **CEFA FAS**, for pilot training and safety analysis.

Translating flight data into precise visualization requires in-depth understanding of the complexity of aircraft systems and software engineering.

CEFA Aviation has been a pioneer in **easy-to-use flight data animation** since Dominique Mineo founded the company in 2000. Its long-lasting success is attributable to a passion for aviation and innovation, listening to its clients, and delivering gold-standard support.

The CEFA Aviation team is headquartered in Alsace, a region in Eastern France.

#ForASaferSky #FlightDataAnimation #FlightSafety #PilotTraining

Request a demo now!

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