



indra

SECURITY AND DEFENSE

FLIGHT SIMULATION

Simulation systems delivered in twelve countries

indracompany.com

FLIGHT SIMULATION



Leading some of the most demanding international projects in simulation

Introduction

Indra has been providing for over 20 years its simulators to armed forces and commercial airlines around the world, using information technologies to contribute to mission readiness through training, responding to the ever challenging requirements of our customers in terms of sophistication and cost effectiveness.

Flight simulation activity began in 1980 with two simulators for the Spanish Air Force C 101 aircraft, and has continued to the present day with simulators for the F-18, AV-8B, A-7, F-16, C-130, CH-47, S-76, SH-60B, AS 532 Cougar, F-1, F-5, F-14 and Eurofighter aircraft as the most significant products among a range of flight trainers, training devices and training requirements analysis programs.

Currently Indra is a world leading provider of helicopter simulators. Indra has been selected by Eurocopter as preferred supplier for different platforms.

Indra has also developed full flight simulators for civil aviation complying with internationally recognized JAA and FAA standards, fixed based flight training devices and desk-top interactive system trainers.

Global maintenance and support: long term commitment

Indra's dedicated ILS (Integrated Logistic Support) activity is initiated right from the program's conceptual design stage.

Reliability and maintainability engineering applied during the design and development phases result in very high availability in service of our simulators and trainers.

Technical publications, spares and support engineering are just some of the services that our ILS activity will provide during the service life of the simulators.

- Technical publications, spares and support engineering are just some of the services that our ILS activity provides during the simulators service life
- Remote support system: software maintenance + updates/upgrades performed remotely over the Internet
- Maximum use of COTS (Commercial Of The Shelf) parts with significant savings and convenience in maintenance and procurement for end-users
- Worldwide coverage: on call support and spares somewhere near you
- The very best simulator manufactured by Indra in 1980's still in operation today



Full range of devices

System trainers and computer based interactive trainers are devices which allow the user to become familiar with specific systems and functions of the aircraft, with a considerably reduced acquisition cost and a consequently higher availability. This type of device is designed for use in a total training programme before instruction in a flight simulator.

Operational flight trainers and flight training devices simulate the correct operation of the platform throughout all phases of flight, covering both normal and emergency procedures. Some also include tactical capability, in the form of armament system simulation.

Full flight and full mission simulators are the most complete devices, simulating not only the performance and operation of the platform, but also the complete tactical environment, including weapons, threats and electronic warfare elements. This capability enables exercises to be carried out in specific geographical areas and with distinct mission objectives.

State-of-the-art and innovative systems

INVIS2

Indra's visual image generation system. Indra provides complete visual solutions based on Indra's IG, custom visual databases, Indra DBGS and display systems integration (in house or custom design) using state-of-the-art technology and achieving the highest level of performance and quality required by the most demanding customers.

INGRID

Indra's visual database generation system, the perfect INVIS2 companion that allows the modification and creation of visual data bases to be easily implemented in the simulators.

EXANA

Modular and expandable solution that covers all the debriefing and mission analysis necessities for simulation centers.

INSE

Indra's high performance synthetic environment product. Scenario planning (Off-line), tactical environment, tactical control center, interaction with simulator systems, HLA compliant, 3D control and monitoring (Syecon3D).

AIDA

Indra's tools suite for interoperability (HLA/DIS).

SYENCON 3D

3D tool for mission planning stations, instructor operator.

Stations, and debriefing and analysis stations for real and simulated tactical scenarios.

EVOLUTION

Affordable modular high-end helicopter simulation. From FTD level 2 JAR or level 5 FAA to FFS level B JAR or FAA. More than 80% of the tasks and procedures are creditable for flight hours in this device.





Flight simulators

Main references

Fixed wing

[Global Training Aviation \(GTA\)](#)

ATR-72 FFS LEVEL D JAA

A320 FFS LEVEL D JAA

[Global Training Aviation \(GTA\)](#)

Air china training center, 1 A320 FFS level D, 1 A320 FTD (Chengdu), 1 B737-800 FTD (Beijing)

[Hainan Airlines](#)

Boeing 737 training center, 2 FFS level D

[Merpati Nusantara Airlines](#)

CN-235 FFS level C

[Malaysia Airlines](#)

F-50 level C FFS

[Fokker](#)

Fokker 100 CPT

[Venezuelan National Guard](#)

King Air B200 FTD

[Chilean Air Force](#)

A35-c101 simulator

[Portuguese Air Force](#)

A-7P full mission simulator

F-16 full mission simulator

[US Navy](#)

MTT AV-8B+, multitask trainer

AV-8B+ RNAWST 2F150A

AV-8B+ RNAWST 2F150C

AV-8B+ Aircrew trainers rehost

F-14 FMS rehost and upgrade

AV-8B+ 2F149 radar upgrade

AV-8B+ RNAWST 2F150A upgrade

[Italian Navy](#)

AV-8B+ Radar intercept trainer

AV-8B+ Italian Mission Simulator (IMS)

[Spanish Army, Navy and Air Force](#)

C-101 Operational Flight Trainer (OFT)

C-130 Tactical simulator

F-18 Operational flight and tactics trainers

EAV-8B Full mission simulator

F-5 Simulator

Mirage F-1 Simulator

F-18 OFTT Upgrades (I and II)

F-18 OFTT Visual upgrade

CL-415 FTD

Eurofighter GmbH

Eurofighter Typhoon ASTA

[Jordanian Air Force](#)

C-101 Operational Flight Trainer (OFT)

[Thales](#)

A400M FMS

Rotary wing

[Eurocopter UK](#)

EC225 FFS level B JAR

[Eurocopter Germany](#)

EC135 FTD 3 and FNPT III MCC JAR

[American Eurocopter](#)

EC135 FTD 6 FAA

EC145 FTD 4 FAA

AS350 FFS level B FAA

[Spanish Army](#)

CH-47D Chinook FMS and FTD

AS532 Cougar FMS and FNPT III MCC

Tiger 2 FMS

[Spanish Air Force](#)

S-76 Flight trainer device

[Spanish Navy](#)

SH-60B LAMPS MkIII full mission simulator

[Havelsan \(Turkey\)](#)

S-70A-28 D/DSAR Black Hawk (2 FFS level D + 1 FTD)

S-70B Seahawk (1 FFS Level D + 1 FTD)

[US Navy](#)

MH-53 Simulator upgrade

H-60 Seahawk (2 FTDs)



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