



SMQ-08-01-09
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Another glance at services

Ingénierie Services Développement



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- **Our technical support solutions' phases :**
 - Reliability, Availability, Maintainability, Safety (RAMS)
 - Integrated Logistic Support (ILS), Operational Readiness (OR) and Document Management Services (DMS)
 - Training
 - Engineering and Design Services (EDS)
 - Generic Virtual Training tool (GVT)
 - Technical and Individual Services (TIS)

- **Our solution's assets**

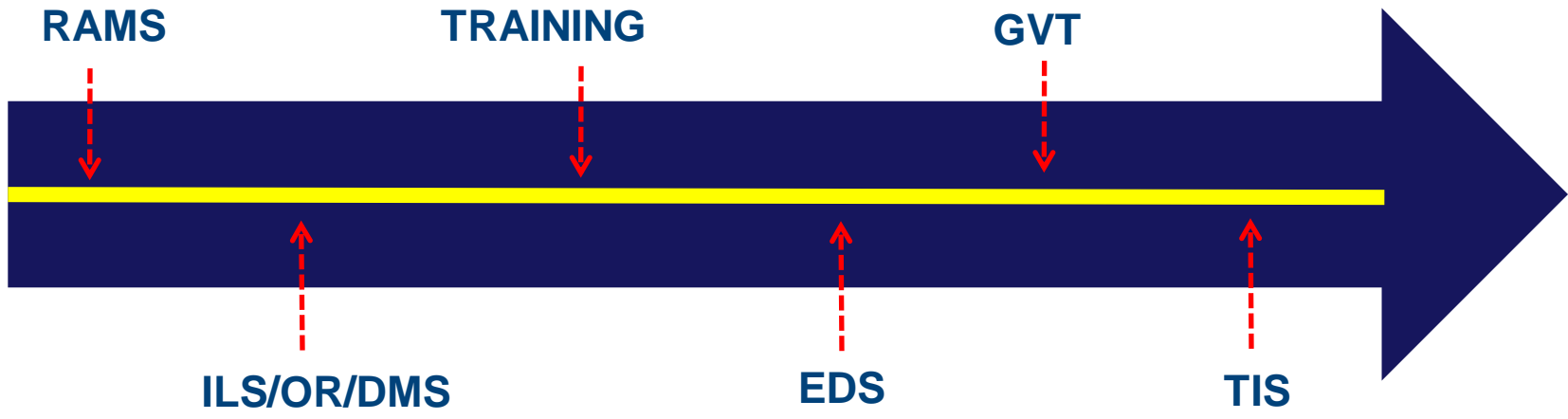
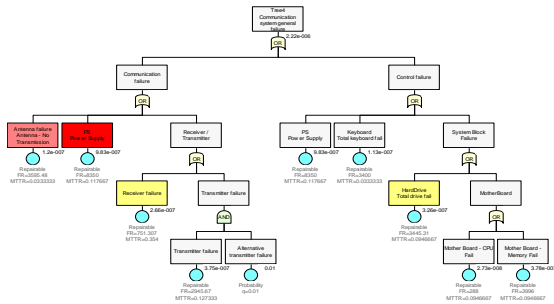
- **Our tools**

- **Overview of ISD's key points**

- **Our customers**

The solution to guarantee the entire technical support of your products

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Services:

- Reliability, Availability, Maintainability and Safety analysis
- FHA, SSA and CCA analysis
- FMECA, Petri nets, Fides, Fracas, Markov...

Insight of our experience:

- Electrical system safety analysis on the A400M (**Airbus**)
- FMECA on radars (**Thales Air System**)
- Safety analysis on missiles (**MBDA**)
- Reliability analysis in mechanics, hydraulics and pneumatics (**ZODIAC**)

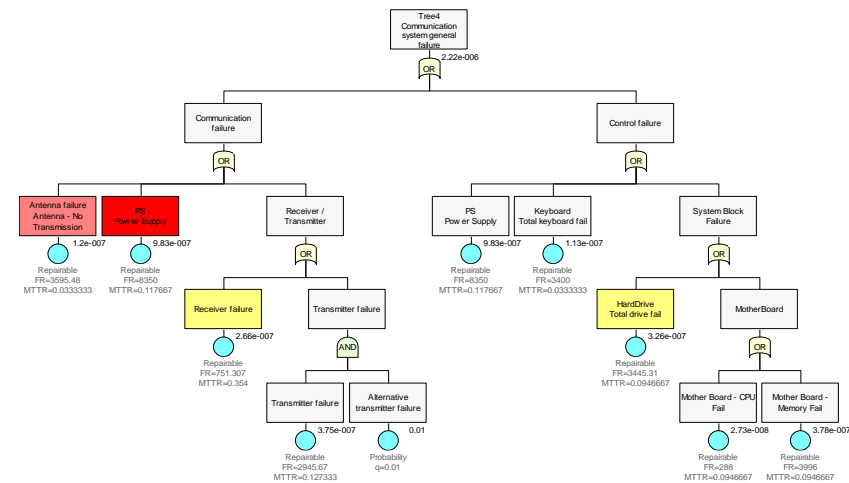




MTBF

SENSITIVITY

FMECA



Function of component	Failure mode	ratio FM	Failure effect Component	ratio failure effect	Failure effect Subsystem (powered)	Failure effect System (powered)
		1		1		
Activate the equipped valve		1		1		
Contain all the electromagnet assembly parts	Broken	1	Loss of the electromagnet assembly parts	1	Loss of the electromagnet assembly	Insufficient valve opening
Transmit the action to the valve/ball (open/closed)	Seizing	1	Mobile core stuck up	0.5	Command valve and the ball stuck up	Insufficient valve opening

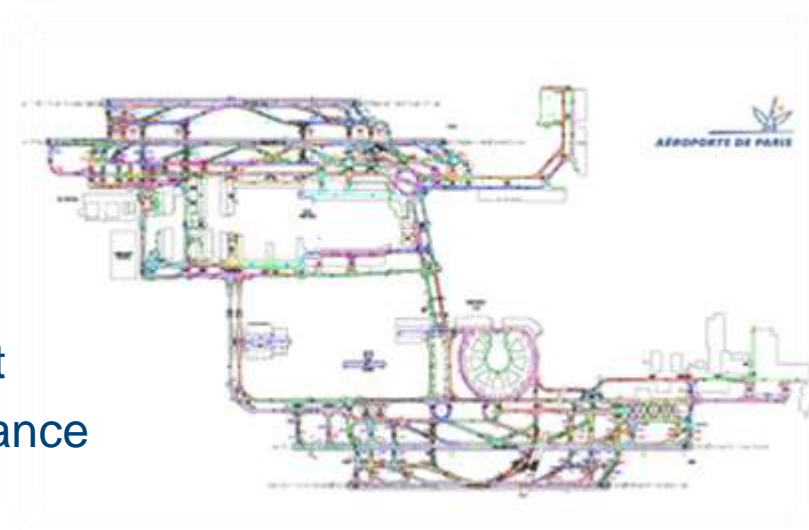


Services:

- Assistance in **Logistic Support**
- Ranges and plans of maintenance
- Retrofit
- Technical documents production

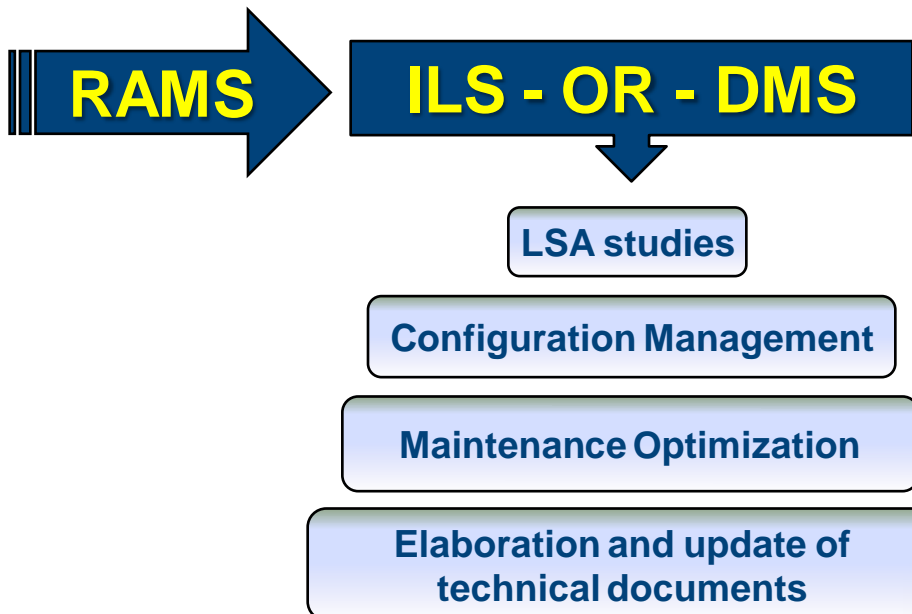
Insight of our experience:

- Assistance in logistic support on the **Crotale NG missiles (Thales Air System)**
- Maintenance plans (**Aéroport De Paris**)
- Development of the retrofit management specifications report on armoured vehicles (**Nexter Systems**)



ILS - OR - DMS

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A330 MAINTENANCE PLANNING DOCUMENT

KEY CODE	SECTION	TASK NUMBER	WORK REFERENCE	ACCESS	DESCRIPTION	ZONE	SYNOPSIS	REVISION	DATE	BY
1500	2000010				DRIVE AXLE INSPECTION AND OILING	01	SPECIAL DETAILED INSPECTION OF FUSelage INTERNAL STRUCTURE AT FORWARD AND AFT FUSelage JOINTS BETWEEN BULKHEADS AND AT TRANSVERSE BULKHEADS			
1500	2000011				DRIVE AXLE INSPECTION AND OILING	02	SPECIAL DETAILED INSPECTION OF FUSelage INTERNAL STRUCTURE ALONG AREA AT FORWARD AND AFT FUSelage JOINTS BETWEEN BULKHEADS AND AT TRANSVERSE BULKHEADS			
1500	2000012				DRIVE AXLE INSPECTION AND OILING	03	SPECIAL DETAILED INSPECTION OF FUSelage INTERNAL STRUCTURE ALONG AREA AT FORWARD AND AFT FUSelage JOINTS BETWEEN BULKHEADS AND AT TRANSVERSE BULKHEADS			
1500	2000013				DRIVE AXLE INSPECTION AND OILING	04	SPECIAL DETAILED INSPECTION OF FUSelage INTERNAL STRUCTURE ALONG AREA AT FORWARD AND AFT FUSelage JOINTS BETWEEN BULKHEADS AND AT TRANSVERSE BULKHEADS			
1500	2000014				DRIVE AXLE INSPECTION AND OILING	05	SPECIAL DETAILED INSPECTION OF FUSelage INTERNAL STRUCTURE ALONG AREA AT FORWARD AND AFT FUSelage JOINTS BETWEEN BULKHEADS AND AT TRANSVERSE BULKHEADS			

« The Life Cycle Cost can be optimized by implementing the Integrated Logistic Support concepts.»



Services:

- Training plans
- Training products conception
- Training sessions
- Scenarios conceptions for practice sessions
- Personal assistance of the foreign trainees in France

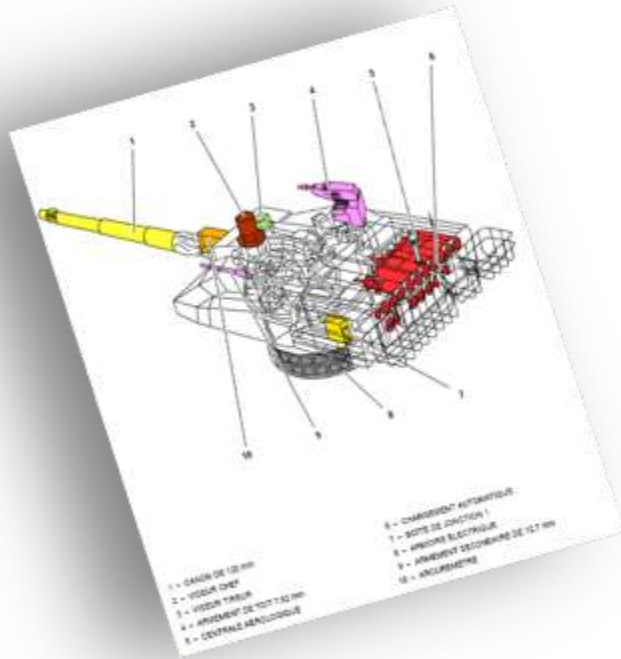
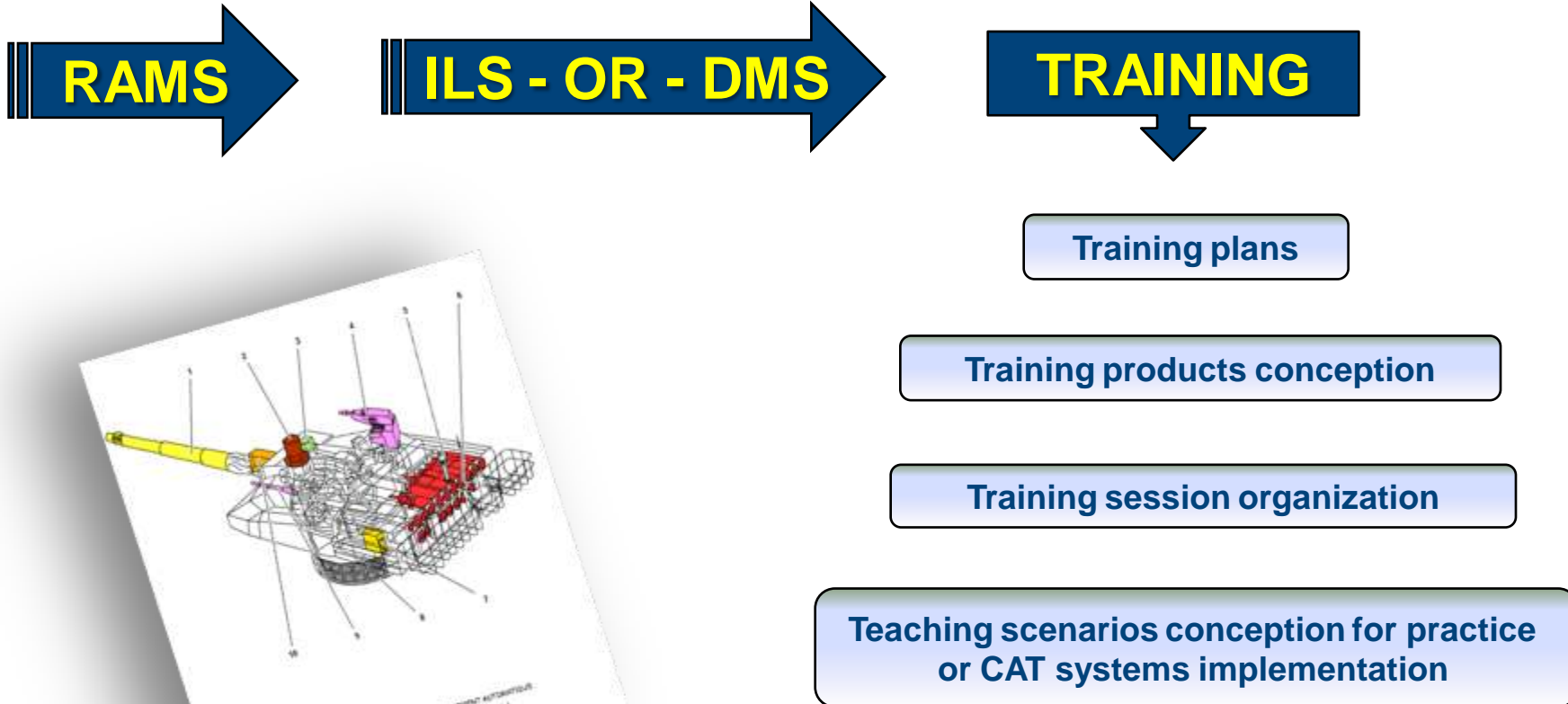


Insight of our experience:

- Implementation and maintenance training of the artillery system CAESAR (**Nexter Systems**)
- Training on security systems of large-sized gas sites in Algeria (**Thales Service Security Systems**)
- Technical assistance and training of a Saudi company's technical staff (AEC in Riyadh) realizing nacelles integrations (**Thales Optronic SA**)



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Services:

- 3D parts design and modeling
- Numerical definitions modifications and optimization
- Assembly and settings

Insight of our experience:

- Design of customized domestic electrical goods front (**Elcobrandt**)
- Cases and wires modeling on military vehicles (**Nexter Systems**)
- Modifications on functional plans for mechanical elements linked to the soil junction environment in the automotive industry (**Renault**)



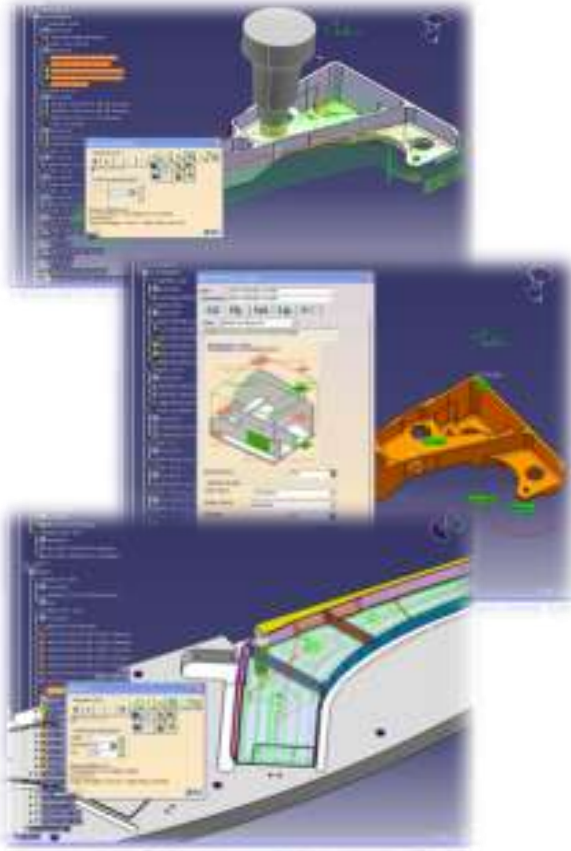


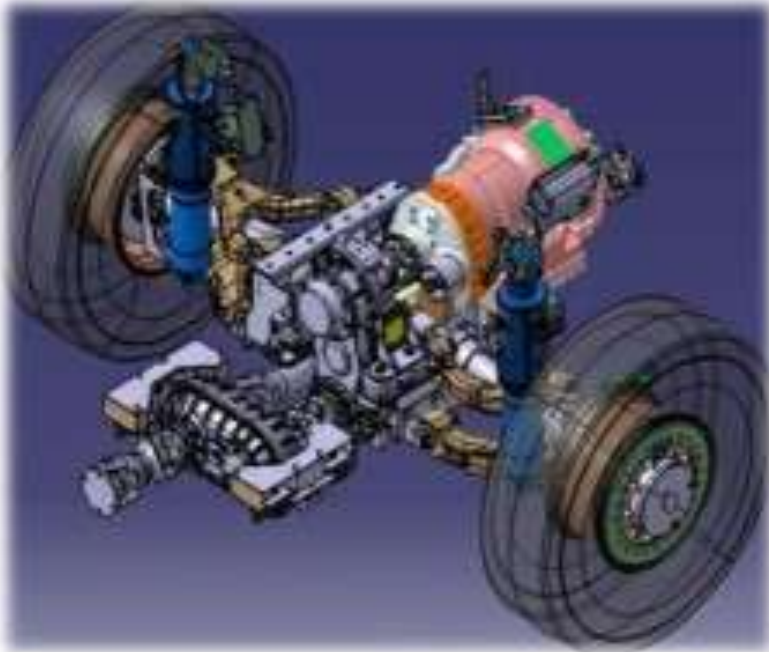
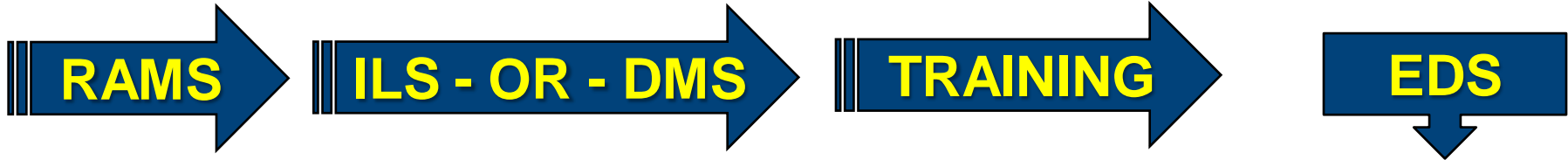
Services:

- Machining ranges realization
- Fixture tooling conception
- Machining programs conception to the 5 axes
- Machining process optimization (cutting tools selection, machines adjustment, ...)
- Machine time optimization on your old machining programs
- Programs simulation and adjustment on CN / UGV machines

Insight of our experience:

- Machining programming of mechanical parts intended for the main door of an airplane (**Latécoère**)
- Machining programming of leading edge for several aircrafts (**Sonaca**)
- Machining programming of mechanical parts intended for the rocket « Ariane V » (**Sabca**)

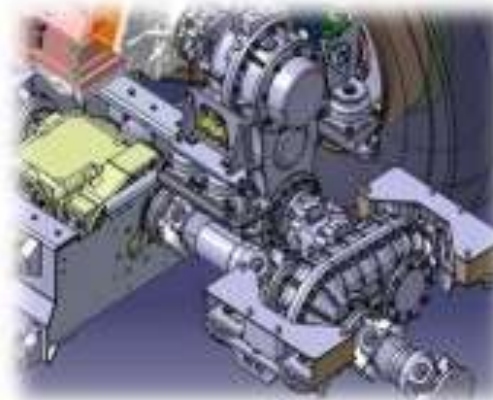


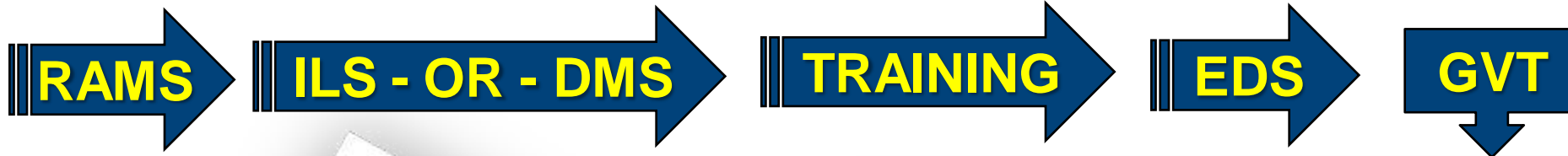


MECANICS



PLASTICS PROCESSING







Services:

- Technical and Individual Services : on site support in France and abroad
- Fields: Electronics, Mechanics, Electro mechanics, Hydraulics, Industrial data processing , Opto-electronics
- Search of very specialized profiles (regularly updated database)

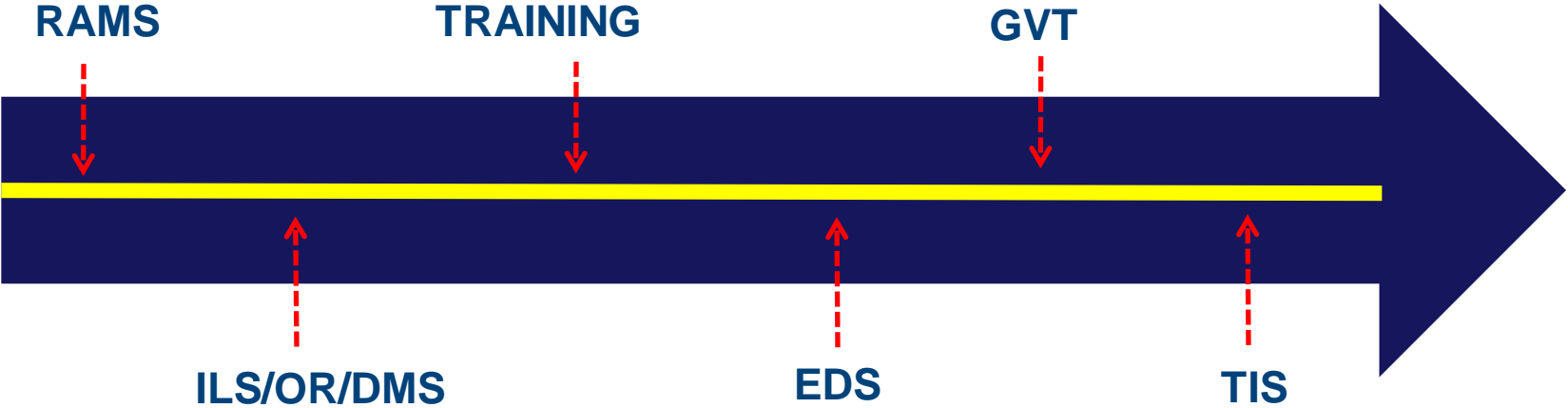
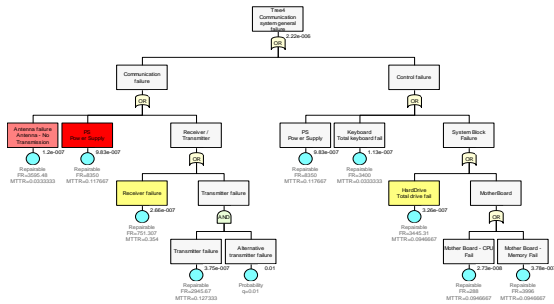
Insight of our experience:

- A **worldwide experience**: Kingdom of Saudi Arabia, Chile, United Arab Emirates, Pakistan, Kuwait, Qatar, Singapore, Malaysia, Turkey
- HSE supervising of the restoration works on a offshore platform
- Tests and integrations support of equipments on arm device in various countries including Poland, Malaysia, Pakistan...



The solution to guarantee the entire technical support of your products

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Our solution's assets

A solution meeting the customers' needs

- Targeting what is necessary
- Customization of the offer
- = > **More efficiency**

A solution with a well-adapted process

- From failure predictions to maintenance training
- => **A logical sequence**

AVANTAGES

A solution fitted for any system and process

- Can be reused for any system or process: multi purpose
- => **More savings**

A solution offering a nice interface: GVT

- An enjoyable tool easy to use
- Fit the user's level
- => **Accessible for everyone**

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RAMS/ILS/OR

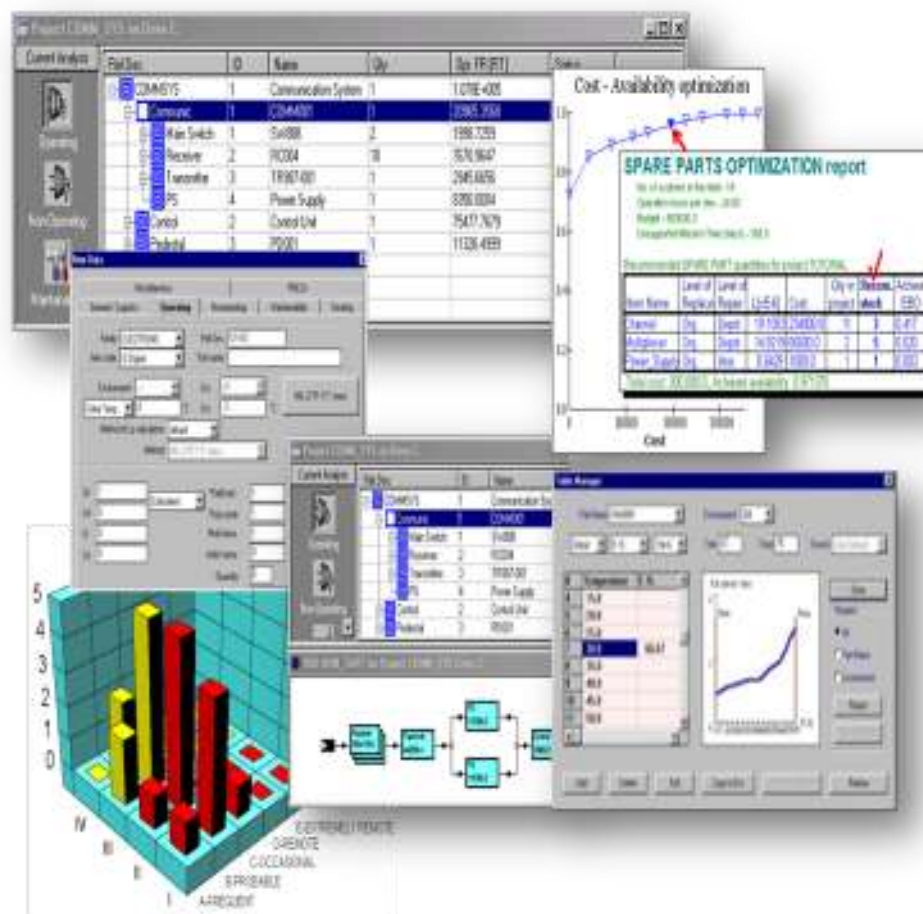
RAM COMMANDER™

- Operating and Non Operating Reliability Predictions
- Reliability Block Diagrams
- FMECA (Basic/Process/Design)
- Fault Tree
- System Safety Assessment
- Maintainability Prediction
- Testability Analysis
- Monte Carlo Simulation
- Spare Parts Optimization

FAVOWEB™ (FRACAS)

D-LCC™

MEADEP™ (Markov models)



CAD

AUTOCAD

2D / 3D

CATIA V4/V5

SOLIDWORKS

UNIGRAPHICS

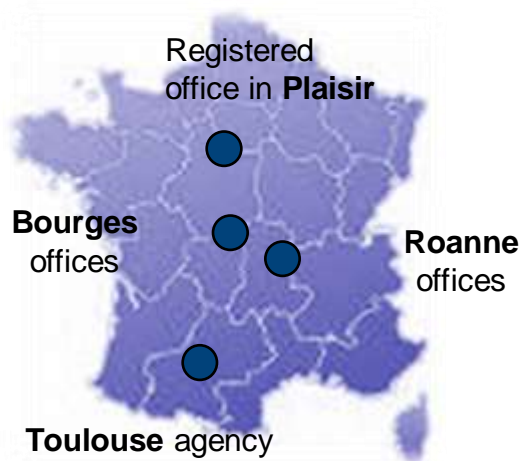
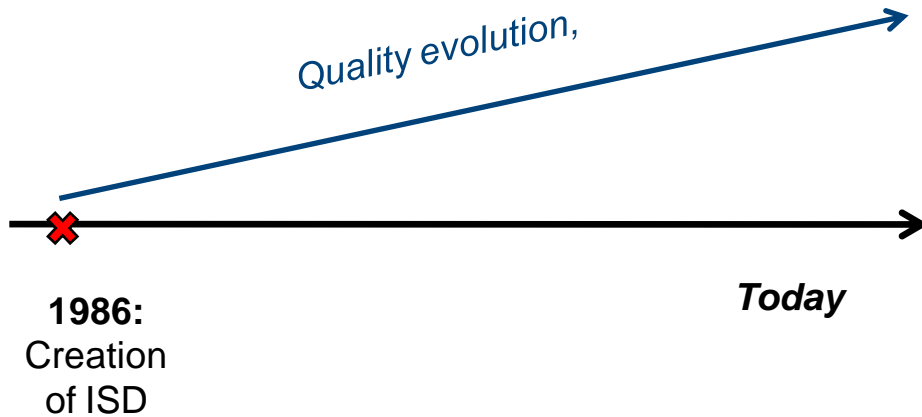
Solid
Surface
Assembly
Setting

CAM

CATIA V4/V5

Milling
Turning

Overview of ISD's key points



«Because of the quality of its services and its staff competences, most of the major players in the **Aeronautical, Defense, Railroad, Energy, and Industry fields** have been choosing ISD as a business partner. »

AERONAUTICS

- AEROPORT DE PARIS
- AIRBUS
- ARTUS
- DASSAULT AVIATION
- DGAC
- EQUIP'AÉRO
- EUROCOPTER
- HARMONIC DRIVE
- INTERTECHNIQUE
- LATECOERE
- LEACH INTERNATIONAL
- MBDA
- MICROTURBO
- SABCA
- SAFT
- SICMA AÉRO SEAT
- SONACA
- VIBROMETER

DEFENSE

- CEDIP
- DAHER LHOTELLIER
- DCNS
- DGA
- EADS
- GROUPE SAFRAN
- GROUPE THALES
- ISIS MPP
- NEXTER SYSTEMS

INDUSTRY TRANSPORTS

- ABB
- ACERGY
- ALSTOM
- AXO SCINTEX
- CGG VERITAS
- ELCOBRANDT
- ENERTEC
- MANULI
- NSE INTÉGRATIONS
- RENAULT
- SIEMENS VDO
- SNCF
- VALEO