



ISTEMI AVIONICI

OUR IDEAS FLY ALL OVER THE WORLD



LOGIC TODAY

In the evermore challenging aerospace industry, adapting to the unique requirements of the global market is a must and Logic takes its duty seriously.

Engineering know-how and manufacturing techniques are taken to state-of-the-art level, placing the focus on the end-user requirements; in the attempt to make present the future.

LOGIC has a workforce of over a hundred employees: more than 30% are devoted to R&D projects and app. 40% work in the Production Department.

Some 24% of the total workforce have university degrees and a further 48% are qualified engineers.

Boasting over fifty years' experience in its line of business, the company now serves the Italian, European and overseas markets with high-tech products used on both civil and military applications and is constantly expanding its interests.

In fact, the greater part of the company's current revenue derives from exports.

Major customers include (to name just a few!):

- AGUSTAWESTLAND
- AIRBUS HELICOPTERS
- ALENIA AERMACCHI
- BOEING HELICOPTERS
- EUROFIGHTER
- FIRSSTEC
- KANEMATSU
- MEGGITT
- PILATUS AIRCRAFT
- SELEX ES
- THALES COMMUNICATIONS & SECURITY
- U.S. ARMY (CH - 47)

OUR HISTORY

LOGIC was established in 1962 with a single primary objective: "To research, design, develop, produce and sell industrial and aerospace equipment in Italy and abroad".

The company, initially located in Milan, dedicated all its resources to on-board equipment and instrumentation for airplanes and helicopters - mainly for the domestic market but with an eye to penetrating foreign markets, too.

It was company policy from the very beginning to focus on the customer's needs and ensure they were provided products and services tailored to meet their specific requirements.

Logic is characterized by a high degree of flexibility at all levels and the timely availability of the best possible products.

LOGIC plays an important role in its field.

Since 2004 LOGIC is located in the east of Milan in facilities covering an area exceeding 7,000 sq.mts.

The company enjoys the benefits of spacious, modern facilities and a state-of-the-art Production Department.



RESEARCH AND DEVELOPMENT

Benefiting from decades of experience and familiarity with the latest technology, LOGIC is able to promptly respond to customers' demands providing highly professional concurrent engineering throughout the design and development phases.

Such an approach enabled LOGIC to become supplier to many of the major European and overseas manufacturers of fixed and rotary-wing aircraft, guaranteeing support on all its products throughout their service life.

LOGIC's specialized and skilled staff is accustomed to exploiting the most recent engineering techniques.

Concurrent engineering is standard design practice in the Company, performing functions such as feasibility studies, Hardware and Software development, R&M, production of manufacturing drawings and definition of tooling and special production processes.

HARDWARE

- Microprocessor Systems based on 8/16/32 bit architectures
- Equipment based on Programmable Devices
- Data Acquisition and Processing Systems
- Display Systems
- NVG Compatible Panels and Displays
- Fuel Quantity Sensors and Systems
- Actuator Control Equipment
- Electric Power Control and Distribution Equipment
- Development of Hardware according to RTCA/DO254
- EMC/EMI and Lightning proof Equipment

SOFTWARE

- "C" High Level Language and ADA
- Coding according MISRA guidelines
- Development of Software according to RTCA/DO178 B/C
- Software Validation for Military and Commercial applications

R & M

- Stress Analysis
- Reliability Prediction
- Fault Tree Analysis
- FMECA
- Safety Analysis
- Maintainability Analysis
- Testability Analysis

TEST EQUIPMENT DESIGN

- Manual Test Equipment
- Automatic Test Equipment
- Development of Code in "C"

MECHANICAL DESIGN

- 3D Design using Inventor Tool - Autodesk Product
- Housing and Display Panels
- Electrical Actuators
- Engine and Landing Gear Control Levers

PCB DESIGN

- Standard and Multi-layer PCBs
- Mother Boards
- Rigid-Flex Interconnections



PRODUCTION

Thanks to the experience gained in over fifty years of activity and the state-of-the-art technologies it is accustomed to using, LOGIC's Production Department guarantees the Customer's production schedule is met in strict accordance with the highest quality standards.

LOGIC PRODUCTION PROCESS

An important aspect of the Production Process is the ability to manufacture all the equipment in-house.

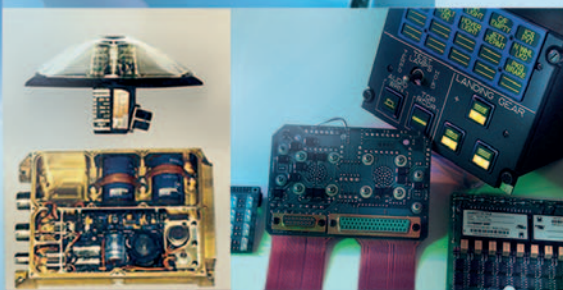
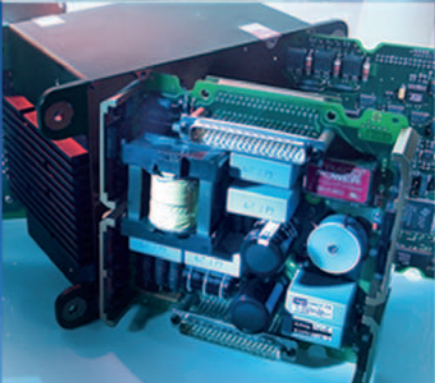
The main activities are:

- Mechanical Construction (CNC)
- Surface Treatment
- Board Assembly using Surface Mounted Devices or traditional components (Through-Hole Technology)
- Conformal Coating (automatic and manual)
- Intermediate and Final Testing using General Purpose Benches or dedicated Test Equipment
- Burn-in (using climatic chamber and vibration device)

The Production Management System defines the procedures and processes to be observed all along the line, from receipt of the Purchase Order up to delivery to the Customer.

An extensive network of key qualified suppliers meeting the standards required has been set up over the years, guaranteeing access to high-quality materials.





QUALITY

LOGIC's Quality Assurance System complies with the most demanding NATO (AQAP 2110 and AQAP 2210) and Industrial Standards (ISO9001:2008; UNI EN 9100:2009, EASA PART 21G, EASA PART 145, FAA PART 145 and TCCA Canada CAR 573) and is committed to excellence. LOGIC has been granted Qualified Supplier status under the most stringent requirements. For example, by :

- ALENIA AERMACCHI
- AGUSTA WESTLAND
- BOEING BQMS
- U.S. ARMY
- U.S. NAVY
- PILATUS AIRCRAFT

QUALIFICATION FACILITIES

Having vast experience in the aeronautical field, LOGIC is aware of the demand for comprehensive environmental testing. The Qualification Department can perform the following tests:

- Environmental Testing (MIL STD 810, DO160)
Vibration/Shock/Gunfire
Temperature/Humidity
Temperature/Altitude
Salt Fog
Drip
Solar Radiation
- EMC Testing (MIL STD 461, 462, DO160)
Anechoic Chamber
Shielded room
Lightning Equipment (DO 160D)
- Optical Testing (MIL STD 3009)
Spectroradiometer measurement

LOGIC PRODUCTS

Logic can leverage its long time experience in electronics for avionics applications to design a wide variety of products. Its own legacy, combined with the new ongoing developments, makes Logic's product catalogue significantly important.

5 PRODUCT FAMILIES

1- DISPLAYS & CONTROLS

Cockpit Control Units from single function/discrete information to multifunction units embodying ruggedized AMLCD for user friendly Man Machine Interface

2- FUEL MANAGEMENT

Solutions based on passive or active probes with appropriate signal conditioning, including multiple variable processing, for Fuel Gauging and Fuel Management up to complete Fuel Systems Solutions

3- ELECTROMECHANICAL ACTUATION

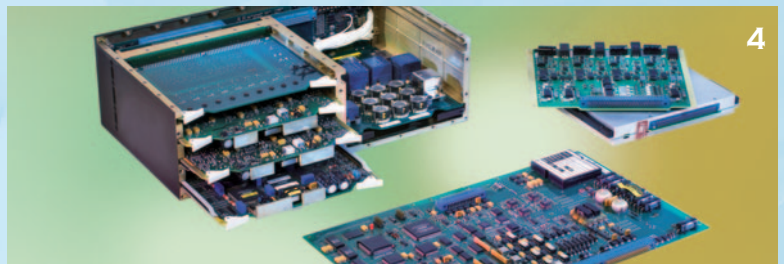
From mechanical Control Levers for different applications to Control Units for Electro Mechanical and Electro Hydraulic Actuation. Intelligent and Smart Electro Mechanical solutions based on state-of-the-art electronics

4- POWER MANAGEMENT AND CONTROL

Full spectrum of low and medium power solutions ensuring smart Power Management Enhanced Solid State Power Distribution based on Solid State Switches with high performance management capabilities

5- PROCESSING

From single function dedicated units to multi functions data acquisition, management and concentrator units based on high performance electronics



All these products are currently on-board well-known, fixed- and rotary-wing platforms; some bearing a long service history, yet still maintained by Logic.

MARKETING POLICY

LOGIC's organisation is structured to design, develop, qualify and produce aeronautical systems to satisfy individual needs, using the most technically advanced solutions while enhancing the cost benefits.

Our company policy is to provide totally reliable, high-quality products that are tailored to meet specific Customer requirements.

The demands of both the domestic and foreign markets are a constant reminder that competition is a reality. Proof of our success in being able to meet even the most challenging aeronautical requirements is the fact that our products now fly on aircrafts cruising the globe.

ROTARY WING

AW109 Family
AW129
AW169
AW101
ALH
BK117
H-46
CH-47
SA330
EC135/145
EC225
NH90
TIGER

FIXED WING

C27J
A400M
ATR42/72
EUROFIGHTER TYPHOON
MB339
M346 Master
PC6
PC7
PC12
SARAS
SF260
IA63NEWPAMPA
MUAV

New and existing platforms are in constant evolution to comply with new regulations and modern requirements.

Looking to the possibility to make future present in today's solutions, Logic continuously invests in designing new families of products.

Currently we are focused on:

- Smart actuators with electronic controller
- Solid State power distribution controller

PRODUCT SUPPORT

LOGIC has always considered an efficient Product Support Department of paramount importance.

We firmly believe customer satisfaction must be our primary objective and we spare no effort striving to reach that goal.

To ensure our policy is fully adhered to, the Company follows a world-wide service strategy and personally supervises each and every intervention.

CUSTOMER SUPPORT SERVICE

SPARES

Provisioning data fully conforming to ASD 2000M standards.

Inventory for spares available within the time frame specified by the Customer.

Spare units available within 24 hours (AOG capability).

REPAIR AND OVERHAUL

Repair and overhaul carried out at LOGIC facilities or at LOGIC-authorized service stations located in the USA.

INTEGRATED LOGISTIC SUPPORT

Full support service throughout equipment life-cycle.

MAINTAINABILITY

Established maintenance requirements for all new products.

Dedicated maintainability analysis performed for all new programmes.

RELIABILITY ASSESSMENT

Full performance monitoring with feedback from operators on design and engineering, to facilitate improvements in product life and reliability standards.

TRAINING

Courses available either at LOGIC facilities or on the Customer's premises.

TECHNICAL PUBLICATIONS

Technical Manuals as per ASD 1000D and service bulletins, with related full Customer service up-dates.

Special tooling test procedures and schematics for technical manuals are provided with internal validation.

TECHNICAL LIAISON

Working in close contact with the Customer, specialized Product Support Service staff transfers all the information relating to the use of the equipment to other in-house departments. Such data is considered a vital contribution to achieve enhancements in the design and quality of our existing and future products.

AUTHORIZED SERVICE STATION

LOGIC is an authorized service station for various OEM products, e.g. AC/DC Generators, Control Panels, Landing Lights, Search Lights, Position Lights and Inverters.



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