



# FLEXYTEST SYSTEM

TEST AND DEBUG LOADBOARD WITHOUT STOPPING PRODUCTION

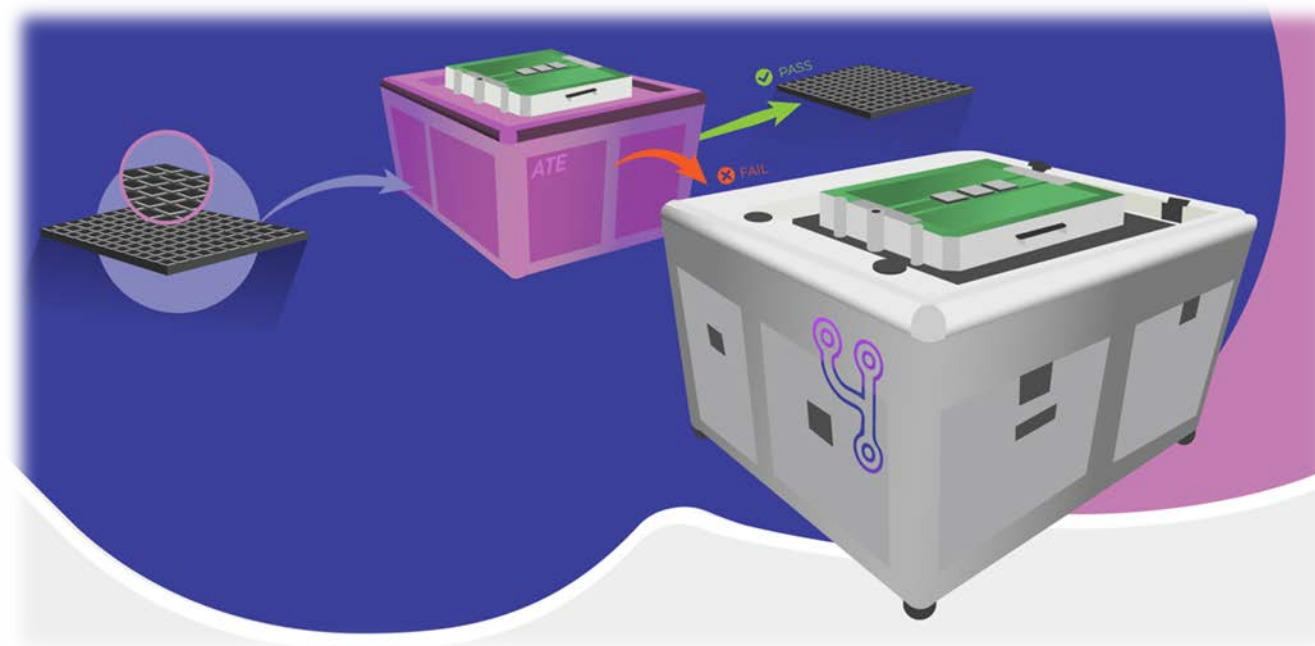
SYSTEM OVERVIEW

2022.Q1



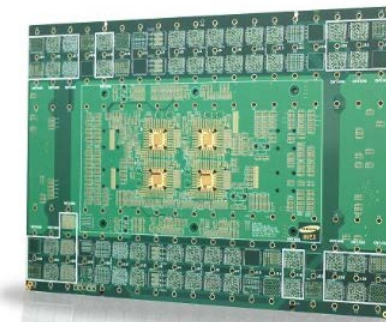
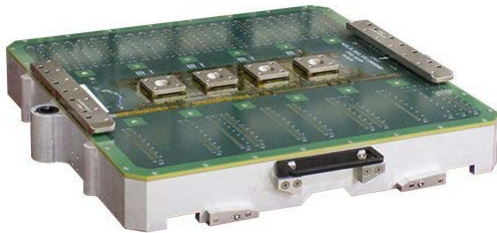
# FLEXYTEST SYSTEM'S SCOPE

**FlexyTEST** is a unique and innovative system developed by E.D. Elettronica Dedicata for **testing, diagnosing and debugging load boards**, avoiding the reliance on automated test equipment (ATE).

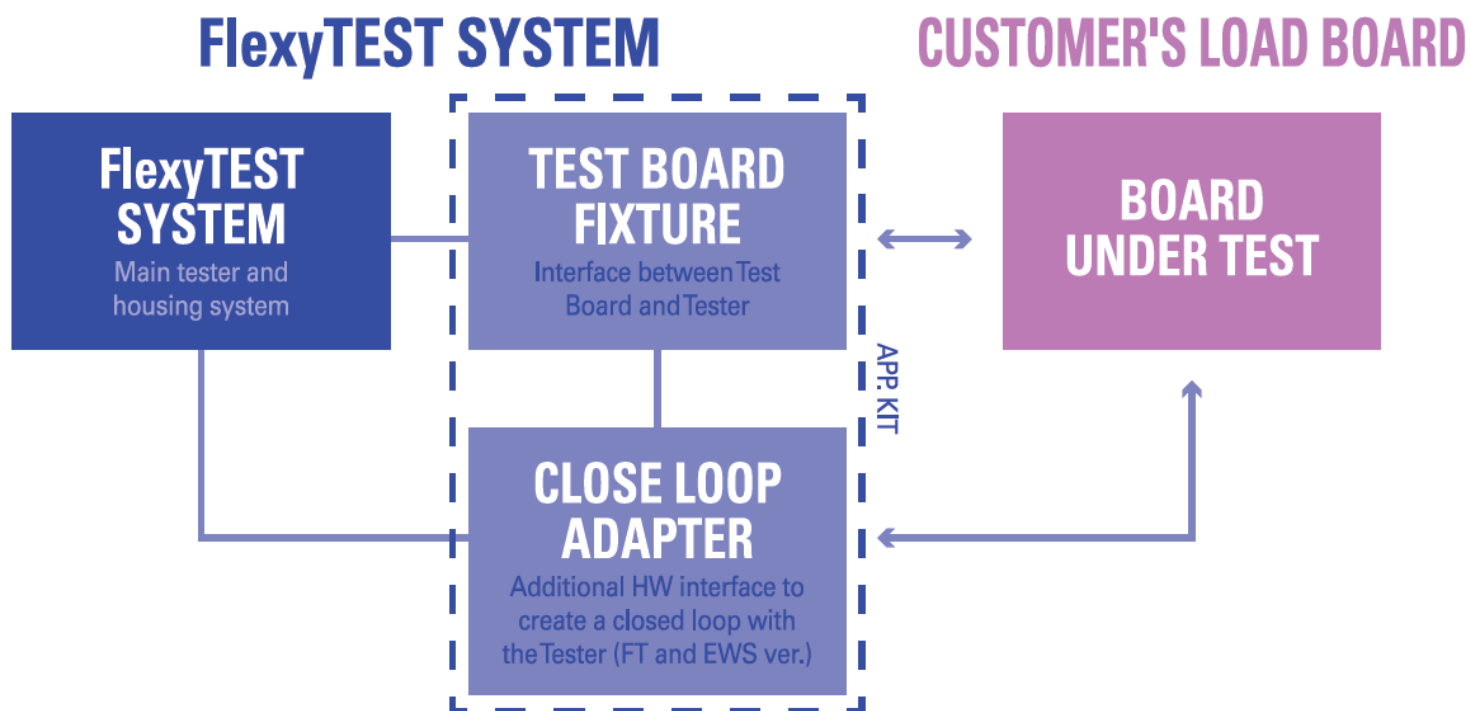


# WHY CHOOSE FLEXYTEST?

- In the semiconductor EWS and FT production plants the effective and efficient maintenance of load boards and interface Boards is a key point to minimize the Cost of Test.
- **FlexyTEST** represents an easy and versatile system to maximize the UTILIZATION of the load board and extend their operating life without affecting the ATE productivity.



# SYSTEM ARCHITECTURE



## APPLICATION KIT:

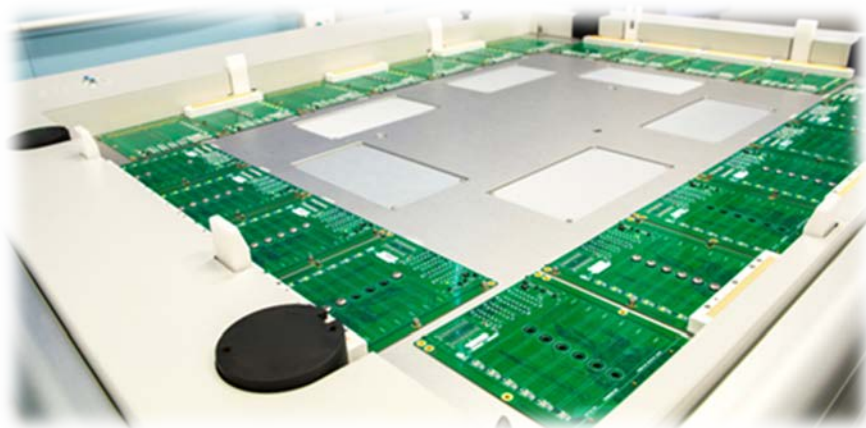
- **TEST BOARD FIXTURE:**  
Board designed to match the ATE load board tester side.
- **CLOSE LOOP ADAPTER:**  
Board to close the loop on load board DUT side (FT and EWS).  
Package and parallelism.

Load board points: 8448

Sites points: 1536

Dimension: 157x144x105 cm

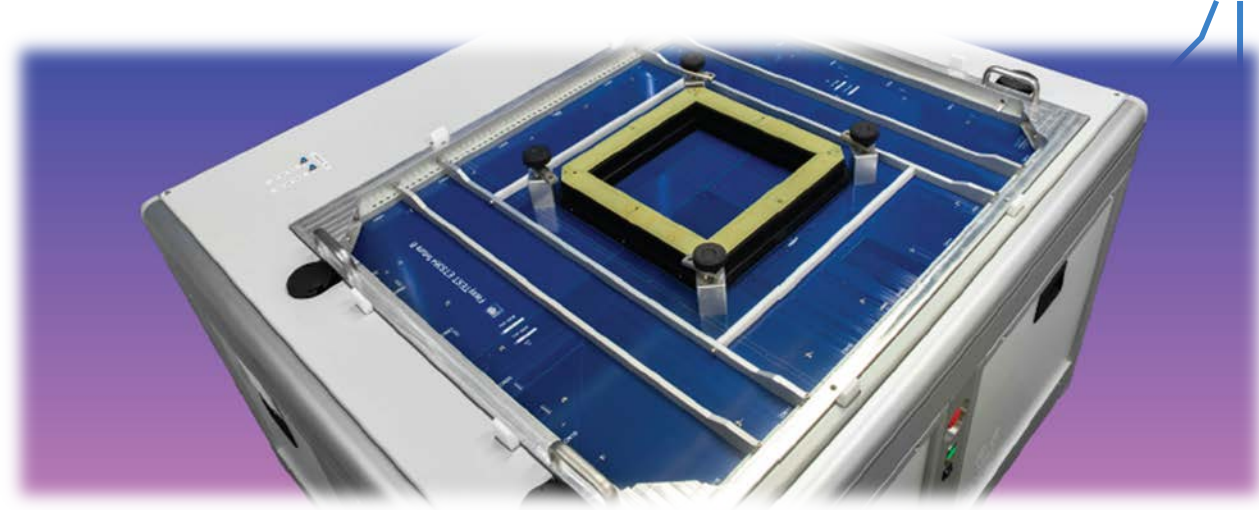
Weight: 380 Kg



# TECHNICAL SPECIFICATIONS

PASSIVE ELEMENTS	R, L, C
LEAKAGE	1 $\mu$ A
RELAY & PHOTOMOS	Functionality (OPEN-CLOSE) Switching time (ON-OFF)
DIODES	V <sub>f</sub>
BUFFER	Functionality, Speed
OPAMP	Gain & offset
MULTIPLEXER	Functionality, Speed
VOLTAGE & CURRENT	Force & Measurement
POWER SUPPLY	$\pm 3V$ , $\pm 5V$ , $\pm 12V$ , $\pm 15V$ (current monitored)
Programmable Power Supply	4 units up to 60V

# TEST BOARD FIXTURE



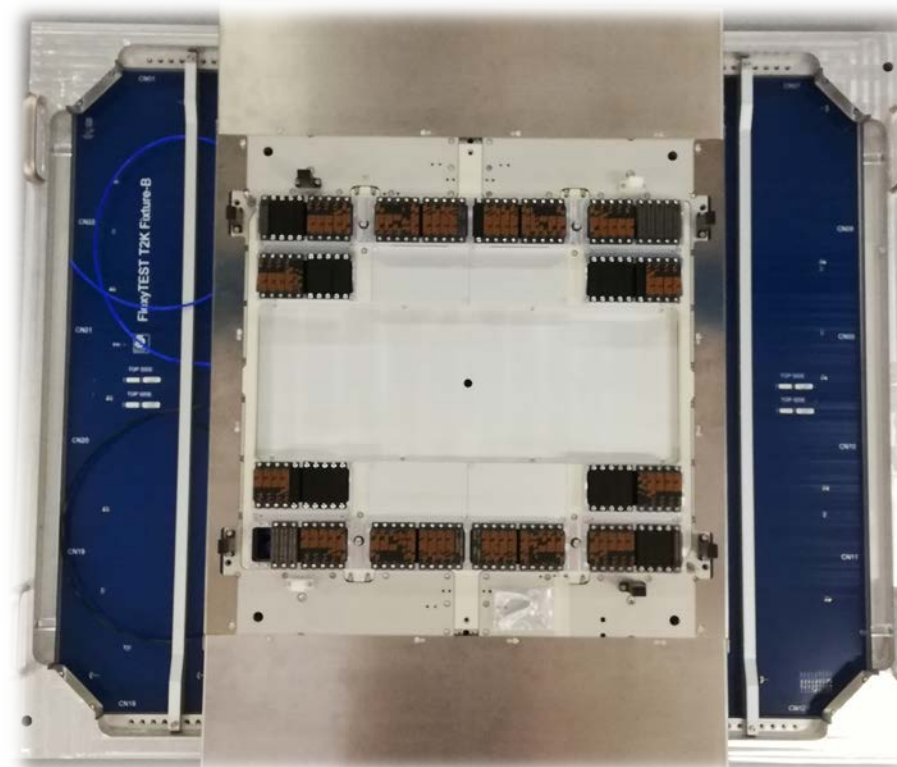
- Standard XY-dimension: 130 x 100 cm
- Load board fixtures for following ATE:
  - Advantest: T2000, 93k
  - Teradyne: ETS-364, iFLEX, J750, UltraFLEX, ETS-800
  - Microtest: Hatina VIP, Hatina 4S
  - Cohu: FusionMX

# FIXTURES

- Hatina VIP fixture



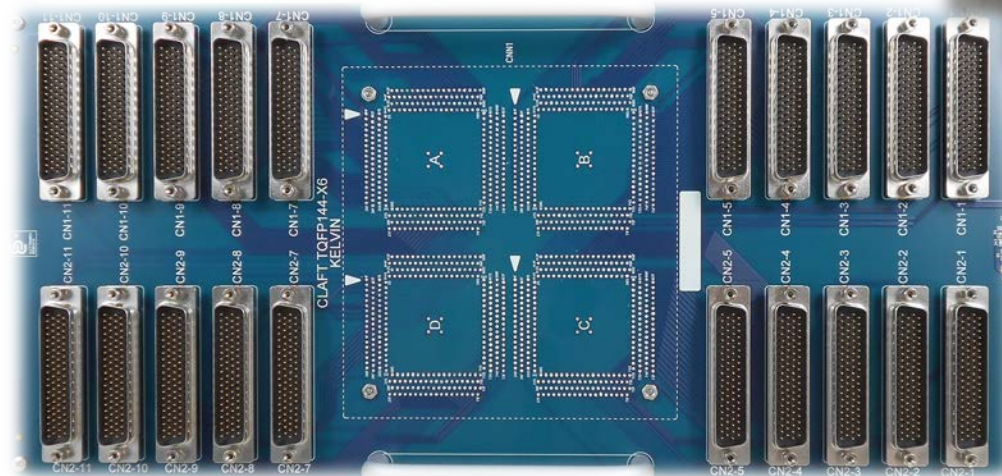
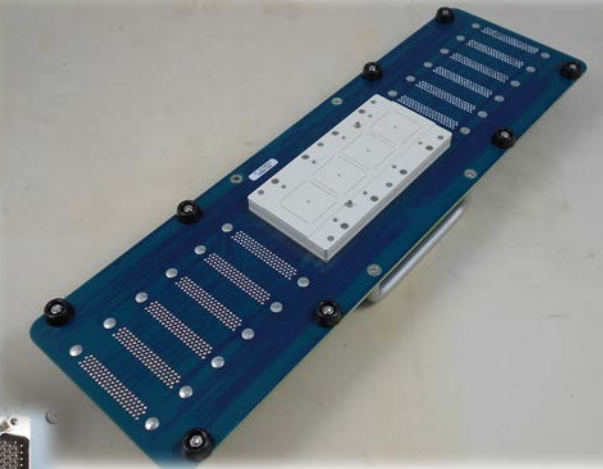
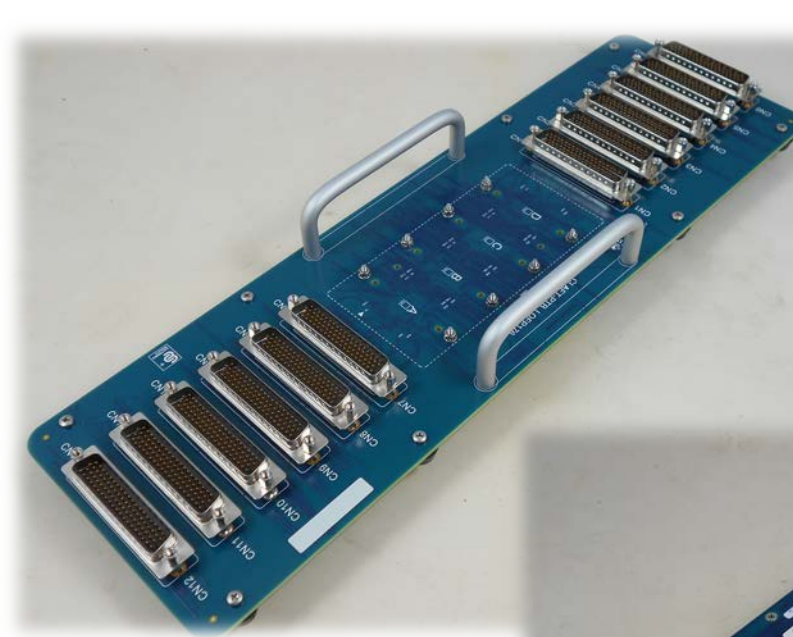
- T2000 fixture

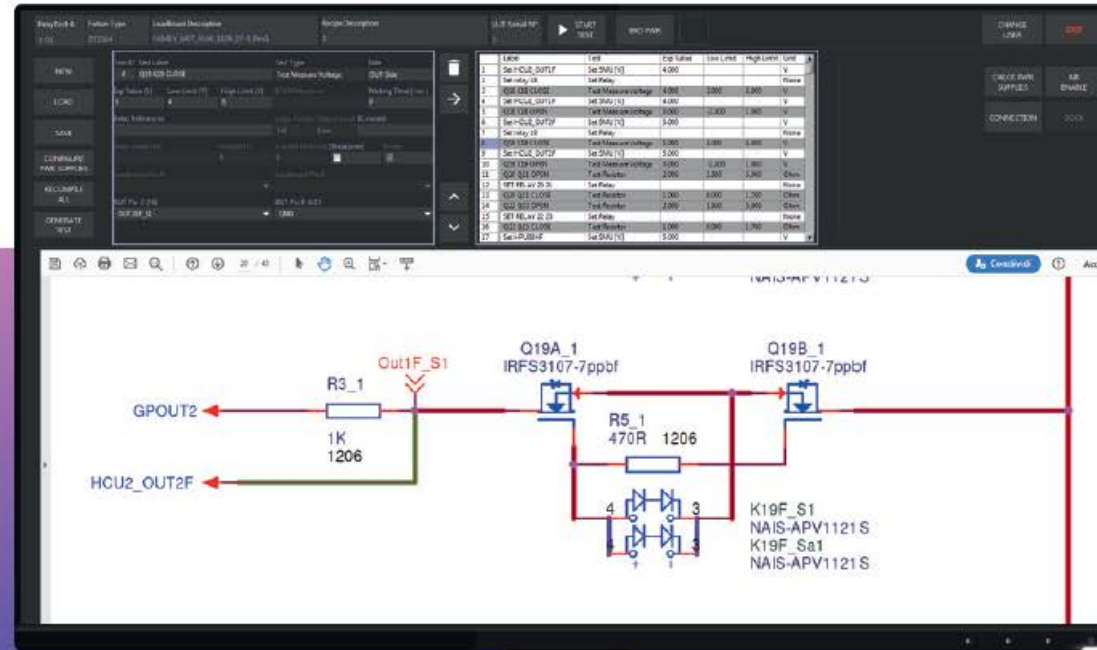




# CLOSE LOOP ADAPTER

- FT Package (different parallelism):
  - PSO, PSSO, SO, TO, QFP, LQFP, TQFP
  - Strip test
  - Custom socket
- EWS boards:
  - ETS-364
  - iFLEX
  - Custom



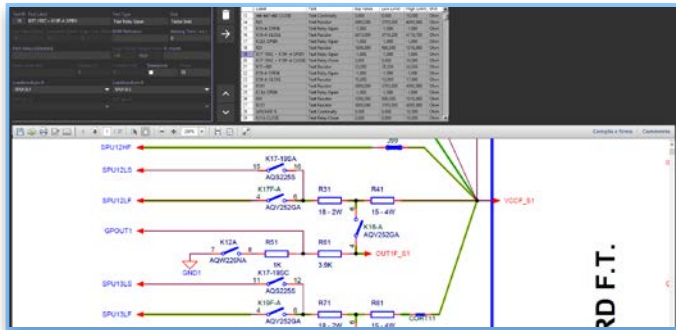


# SOFTWARE USER INTERFACE

No programming language required.

Powered by LabVIEW and TestStand NI.

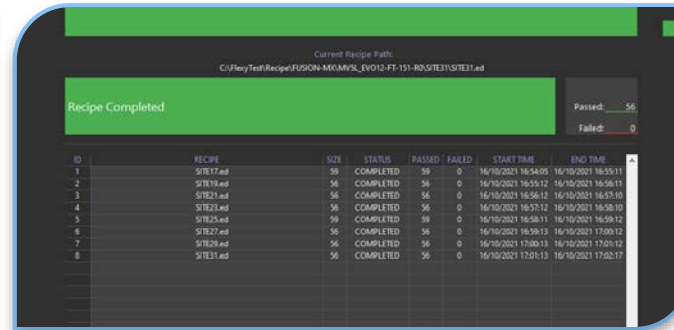
# FLEXYTEST SOFTWARE SUITE



## RECIPE MANAGEMENT

Development new recipe.

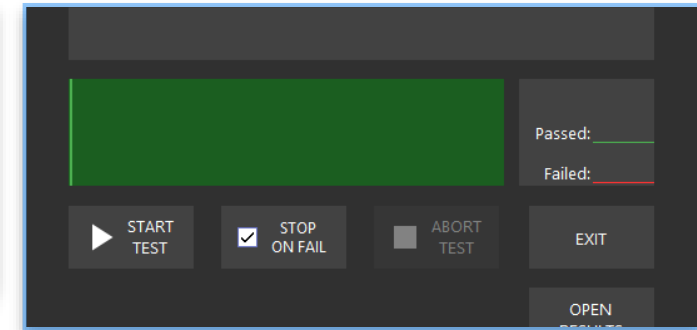
Debug a fail load board.



## TEST EXECUTION

Multi site test execution.

Load board qualification.



## MAINTENANCE

Checker & Calibration software for preventive maintenance.

# FLEXYTEST SOFTWARE SUITE

## CHECKER

Checker kit for system and fixtures functionality verification.

Preventive maintenance

## CALIBRATION

Calibration kit for system and fixtures calibration.

Preventive maintenance

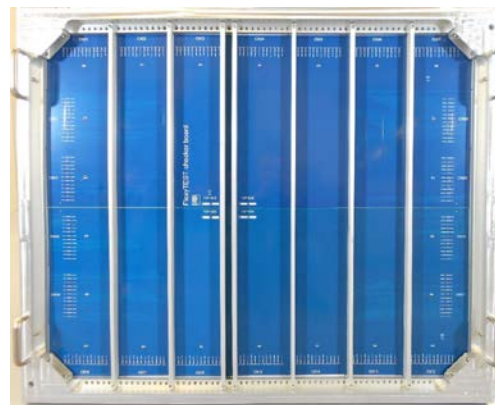
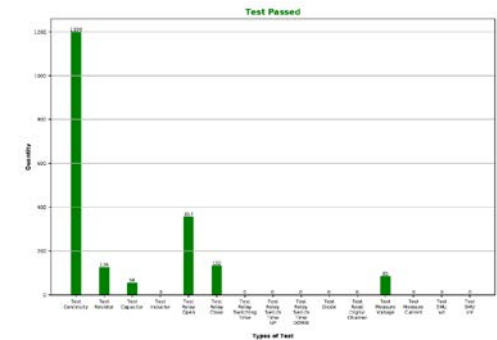
## REPORTS

STDF

HTML

PDF

Custom dashboard



# STRENGTHS



## FLEXIBILITY

High level degree of resource configurability. Customizable fixture to support all Test Boards standards.



## MODULARITY

The standard system is configurable through a set of Application Kits.



## EFFICIENCY

FlexyTEST is easy to use, quick configurability, user friendly software control interface.



## EFFECTIVENESS

High rate of test coverage and smart reporting.

# STRENGTHS



## EASY TO BE USED

- Usable by unskilled workers, after a brief training.
- No mechanical parts to remove from load board.
- User friendly software UI.



## MODULARITY

- High degree of resources configurability
- Application kits for many ATE load boards.

# STRENGTHS



## FAST RETURN ON INVESTMENT

- Unstopped chips production.
- Full exploitation of ATE in the chips test.

## FLEXIBILITY

- Different ATE fixture availability
- Application kits for FT EWS load boards.

# MAIN BENEFITS

FlexyTEST system represents an “easy to use” solution to perform preventive and corrective maintenance on load boards:

- protecting the investments on load boards.
- maximizing ATE productivity inside the production plants.
- avoiding any overheads due to load boards issues.
- load board certification in acceptance test.



	Board amount (1 year, all Divisions)	Tester time spent for debug (avg)	Saving (Tester hours)
Duplicated items	Up to 1200	8h	Up to 9600 hours
Repaired boards	450	2h	Up to 900 hours

**ROI = Total Tester time Saving = 10500 hours = ~ 437 Days of Tester utilization  
Equiv. 1,24 Tester Gained / year**

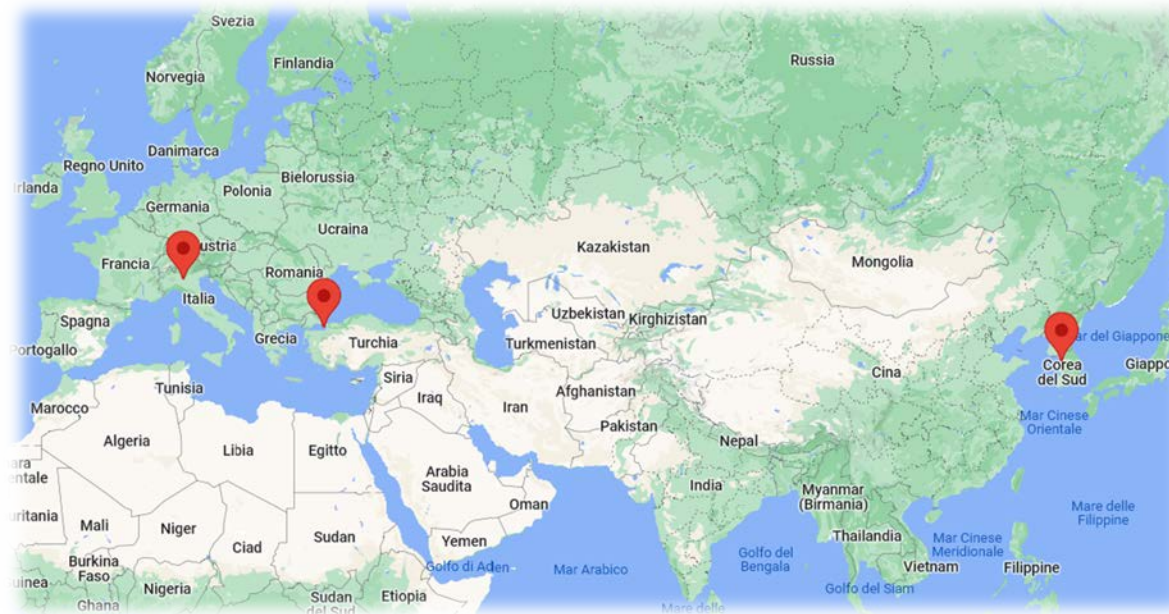




# CONTACTS



**ELETRONICA  
DEDICATA**



Agency  
**South Korea**  
TMC International Co.  
Seoul



**Turkey**



Elettronica Dedicata



Via dell'industria 29/31  
25032 Chiari (BS) - Italy



[info@ed-elettronica.it](mailto:info@ed-elettronica.it)



+39 030 7281715



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