



# Multi-Link Test Facility (MLTF)


## Enhance and Reduce Live Trials




Do you need a semi-automated, streamlined method of fulfilling requirements outlined in JSP 604 and other policy & guidance?




How do you prove your Tactical Data Link (TDL) system integration & implementation?




How do you currently prove TDL system updates?



How do you currently verify TDL system issues?



How do you currently assure that your platform can operate in a multi-national environment?



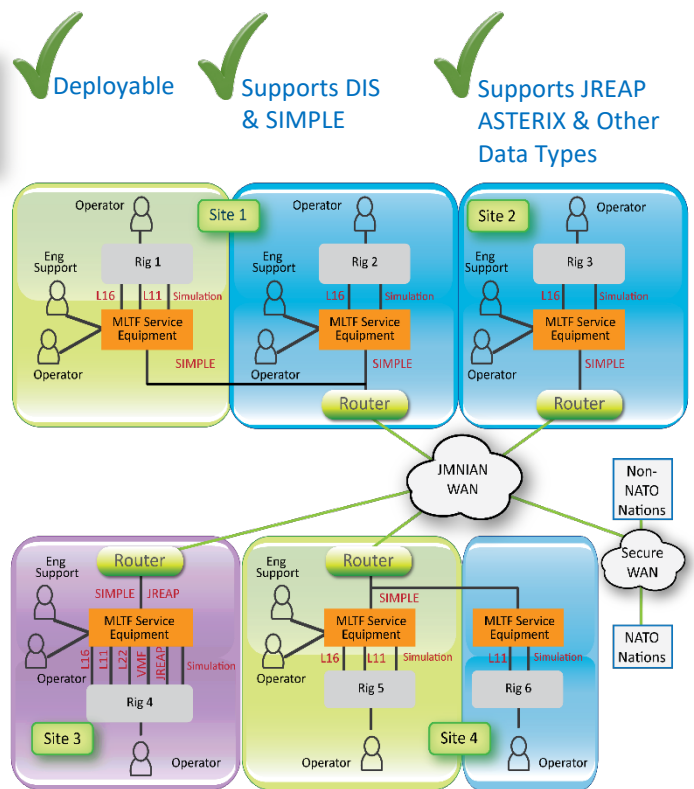
Are your operators getting valuable training exposure to TDL environments before they conduct live tests?

If you are struggling to test your TDL system without costly live trials and deployment, or perhaps, those trials and deployments have not yielded the results that you wanted and you need to test again, the MLTF can provide cost-saving data link and sensor test opportunities that are cost-effective, repeatable and can be carried out at unit level. The MLTF is operated as a fixed location service and as a deployable solution.

### Realising the Value of MLTF

C2 vs 1 Flight Trial example	1 vs 1 Platform Trial (nonC2 or C2 or mix)
2 pilots, 4 ground crew	2 MLTF operators, 2 operators, simulator can be used for Vs Standard testing
Fuel for approx. 1.5-hour sortie x 2	No fuel required
1.5-hour maximum trial, trial time 45 minutes?	We can switch the lights off
Limited repeatability within the single test and not easy to coordinate a retest	Almost unlimited repeatability
Special recording equipment required to capture data	MLTF has built in recorders as do platform rigs
An amount of training benefit	An amount (perhaps less) of training benefit
Aircraft use is ongoing, currently no extra contract required	MLTF is a specialist service and requires to be contracted
Rigid extensive planning required to perform test	Flexible and can be run at reasonably short notice
Not a simulated system, operational equipment, if it is a fault in this environment it is a fault	Simulation equipment, some real equipment utilised. Faults found must be validated.

This assumes that the analysis, tests serials and reporting are the same for both types of testing. Each has its advantages, but the cost of flight trials is significantly greater than the cost of MLTF testing. Flight trials are a necessary part of a TDL programme, but should be limited to faults that can only be seen live or for confirming fixes. MLTF support may require tasking.



\* Representative capability.

MLTF is not just equipment, but also a service. It has enabled platforms that currently have an MLTF fixed installation to be involved in many test initiatives.

**“Up to 70 times cheaper than conducting live trials.” \***

\* Based on many system trials and tests

## Initiatives which MLTF has Successfully Supported

### Ground Based Air Defence (GBAD)

- ✓ Short notice system procurement required, need to purchase COTS equipment/systems with little or no lead time to minimise development and deployment costs.
- ✓ Six bidding companies deploy their systems, which interface with independent simulators, MLTF being one of them; providing the L16 network and interactions.
- ✓ Over a period of four weeks, a series of identical and repeatable tests were conducted with the companies involved. The concluding two weeks of the test stage consisted of data analysis with definitive metrics captured. This aided the decision making process when placing the contract, allowing cost and time saving.



### Coalition Distributed Engineering Plant (CDEP)

- ✓ Coalition maritime forces need to work effectively together in the Maritime Theatre Missile Defence (MTMD) arena, to ensure Coalition defence capability against potential missile threats.
- ✓ De-risked live maritime trials through the use of high fidelity, distributed engineering networks. This connected real platform systems together, using MLTF in the UK, with the combined objective of understanding and improving capabilities and limitations through detailed testing and specialised analysis of results.
- ✓ Collaboration in these rig-based events, using MLTF, has been proven to increase the benefit when subsequent live trials take place.



### Correlation/Decorrelation Interoperability Test (CDIT)

- ✓ Surveillance platforms contribute to a correlated picture to assist in Command and Control of data from different sensors.
- ✓ Joined up two or more overseas labs and ran a series of repeatable tests between them. Test scenarios were initiated that are designed to test the correlation algorithms of each platform to ascertain the best way of achieving correlation fidelity between the systems. The MLTF provided scenarios, recording and interconnection in the UK.
- ✓ Huge amount of data captured which enabled checking of parameters, this resulted in a change proposal to the TDL standards. This was fully reinforced by actual test results and actual modelling.



### Interoperability Trails

- ✓ New aircraft, new system, interoperability paramount, ultra-modern and keen to learn by the mistakes and successes of previous aircraft procurement and hit the ground running. Find the bugs, find the operator issues and fix them before aircraft operational.
- ✓ The requirement was to conduct a series of trials between legacy military data link equipped systems. Without the MLTF already in place, the trials would not have been possible in the timeframe. MLTF used to interconnect simulators and rigs and provide error checking and recording.
- ✓ Both legacy platforms and the new aircraft enjoyed huge benefits from the trials, finding issues, updating procedures, plus the added benefit of an increase in knowledge through hands-on; undocumented training element.



## About SyntheSys

SyntheSys provides defence systems, training, systems and software engineering and technical management services over a spectrum of different industry sectors. Along with distinct support and consultancy services, our innovative product range makes us first choice provider for both large and small organisations. Established in 1988, the company focus is on fusing technical expertise with intuitive software applications to solve common industry challenges.