

Long Test Track - MOD Pendine

Providing solutions for your dynamic weapons trials

The Long Test Track (LTT) is a high-speed test track used for your dynamic weapons trials and is located at MOD Pendine, Carmarthenshire in West Wales. The range has a land area of 20.5km² with 9km of shoreline, a sea danger area of 18km², and an air danger area of up to 23,000ft.

The test track is operated under the Long Term Partnering Agreement (LTPA), a 25 year contract between MOD and QinetiQ to deliver Test and Evaluation and support services to the UK military. Spare capacity on the LTT can be supplied to non MOD customers subject to approval by MOD under an Other Works Approval.



A history of successful trials

The original track, completed in 1956, was developed to meet the increasing demand to test 2"-18" rocket motors. Initially, the track was 1,000m long but was extended in 1989 to 1,500m. Since its initial conception it has seen a huge variety of successful trials, including:

- Terminal ballistics against all types of target
- Delivery of representative threat versus airborne or land borne platforms
- Rain/erosion characteristics of materials
- Deployments of aircraft ejection seats, escape systems and other associated equipment



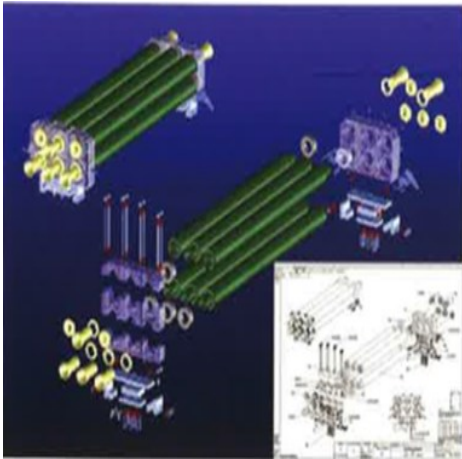
Specification

- 1500m narrow gauge track
- Maximum velocity Mach 3 (subject to mass)
- Maximum weight of 9T

- Space science testing
- New or novel propulsion systems

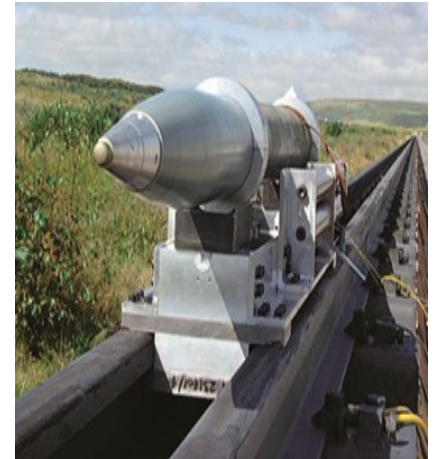
World-class facility

It is one of the foremost facilities in Europe for the dynamic testing of warheads, precision ground attack systems, and missile components. As a result, customers travel from all over the world to use the MOD Pendine test track.



Wide range of targetry

The type of targetry used on the LTT can vary greatly and the team will work to accommodate your requirements. Previous targets have included metal, concrete, sand, and ice. The target layout and catcher system is then designed by the team to ensure safe capture of the test item once it has passed through the target.



Expert team

The LTT team is responsible for the 'whole life' of your trial – from initial expression of interest to trial completion. The team provides a full technical solution to your requirements and has a wide range of expertise throughout QinetiQ to call on. This includes specialist modelling teams and materials experts.

These requirements can include target material, release speed, release angle, g force while travelling along the track, and pitch and yaw on release. Once parameters have been established, the team will begin designing the test track vehicles. This process requires engineering analysis, including stress and aerodynamic performance testing using FEA.

The team must also calculate the number and combination of solid fuel rocket motors required to reach the desired impact speed or to allow the test item to come to rest on the track.



High-tech monitoring

In order to provide you with meaningful results, the track is fully instrumented and monitored by both CCTV and high-speed video cameras. These monitor the test item's behaviour along the track and in free flight.

Reliable data

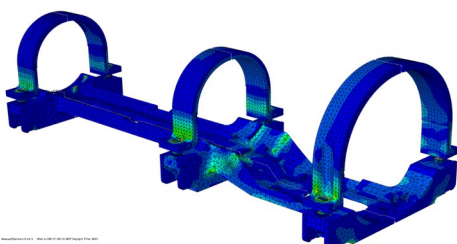
During the trial, data is collected to calculate:

- Velocity and g force as the item travels down the track
- Velocity, pitch and yaw on release
- Impact velocity
- Impact point and if appropriate dimensions of impact point
- Debris plot

This data is then compiled and presented to you through a trials report.

Flexibility to meet your needs

QinetiQ and its predecessor organisations have been completing successful trials at Pendine for over fifty years, during which time a vast knowledge base has been built. The facility offers a variety of set-ups and configurations, and will always investigate any new or novel opportunities to improve our customers' trials on the test track.



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