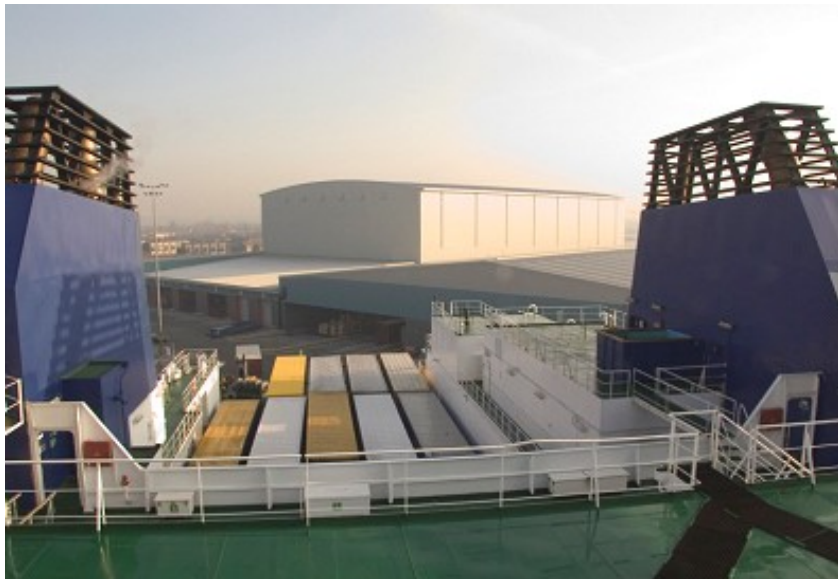


Total Logistics Designs £36 Million Expansion For The Port of Tilbury's Paper Import Business

Tilbury is one of the UK's most famous and important ports employing 1,100 people with a turnover in 2004 of £162 million. A major gateway to London and the Southeast of England, it has intermodal transport links that serve a large section of the country. With 30 million consumers living within a 90-mile radius, its direct links to the UK's motorway network, its wide customer base, broad range of cargo handling operations and skilled workforce make it a commercial hub of global dimensions. Sophisticated IT-driven handling processes are key to Port of Tilbury.

Tilbury has seen more than £70million invested in its infrastructure since it became part of the Forth Ports Group plc in 1995. It specialises in containerised forest products and bulk grain cargoes. Among the high profile investments is the new Enterprise Distribution Centre (EDC) at the Finnish Terminal which manages the import of newsprint and other paper products.

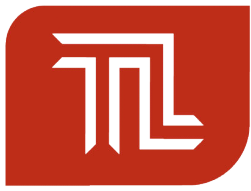
Built specifically to service a 15 year import and distribution contract with Finnish paper giant Stora Enso, Tilbury's EDC opened for business in summer 2005 following a £36 million, two-year investment project. Involving in-depth planning and a wide variety of suppliers spanning every part of the supply chain, the EDC is now importing and transshipping around one million tonnes of paper products annually in 15,000 specially designed paper containers which each hold nearly 70 tonnes of product.



The Enterprise Distribution Centre in the background

Crucial to the success of the project has been the strategic thinking: Wokingham-based supply chain specialists, Total Logistics, worked closely with Tilbury's EDC project team to ensure the new facility could cope with the enormous anticipated demands well before the first container arrived.





21st Century Port

Managing a successful port in today's highly competitive market is a complex business: simply 'being a port' is no longer sufficient. Customers – whether importers and exporters, shipping lines or manufacturers - now demand complete logistics solutions from the ports they use.

They are seeking fully intermodal facilities that can integrate the sea lanes with road, rail and air for easy access to foreign markets, end-users and consumers. Such 'gateway' port facilities need to be backed by professional warehousing, consolidation, re-packing, stock control and distribution expertise that deliver true just-in-time (JIT) supply capabilities and real-time control in a seamless, end-to-end service.



Inside the warehouse—supply chain strategy dominates

The ports must maintain an international competitive edge that delivers both growth and shareholder value. They need to increase cargo throughput and maximise space utilisation in an environmentally sympathetic way that makes the most of finite expansion space. They need to drive down costs, improve forecasting, maintain and develop margins and manage labour efficiently within the boundaries of the EU Time Directive.

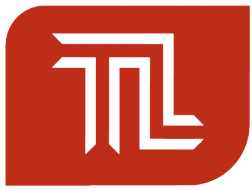
Particularly in the UK, there are the additional intermodal transshipment pressures on regional and national transport network infrastructures. And all this has to be taken in the wider context of global deregulation and a constantly changing regulatory framework.

Responding to Customer Needs

Port of Tilbury's 15 year contract with Finnish paper manufacturer Stora Enso is a good example of the demands which are placed on a modern port. Tilbury needed to develop an integrated, fully intermodal cargo handling facility at a single point that could meet Stora Enso's initial needs but also have sufficient flex to manage future growth.

Stora Enso supplies a wide range of products to the southern UK market, including very large volumes of newsprint, magazine and fine paper. Some cargo, like copier paper, is palletised but the majority is





newsprint arriving on special reels. The company has a hub and spoke operation in place for Scandinavian paper shipments based in Gothenburg and uses purpose built Stora Enso Cargo Units (SECUs) for this delicate cargo.

Dubbed Project Enterprise, the new facility would need to meet all operational requirements, from vessel discharge, container storage and handling through to warehousing and despatch. Plus it would need to ensure minimal damage to product, ensure a smooth flow of goods, optimise labour needs as well as be capable of handling third-party cargo.

It's said that the devil is in the detail and with such a massive single investment in the contract - £36 million to be spent over the two years needed to get the Project Enterprise off the ground – the right specification, planning, tendering and project management would be crucial to ensuring success. To that end, Tilbury appointed supply chain consultancy specialists Total Logistics to articulate and design the processes needed to bring the project to efficient life.

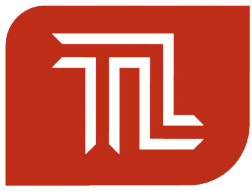
Planning & Process

Tilbury had already begun initial project development work on the Enterprise Distribution Centre when Total Logistics was brought in to begin the first of three planning stages. Stage One required the collation and assessment of anticipated material flows through the EDC plus the development of the key specifications: the all-important user requirement specification (URS) and the selected supplier's functional design specification (FDS). The URS, FDS and material flow plans would be the operational centrepiece of the project, the benchmarked functionality guide for the evolution of Project Enterprise through build, testing, commissioning and operation.

Ken Kirk is the Business Development Manager for the Port of Tilbury: "The strategic demands for Project Enterprise were simple and demanding. We wanted an improved, space efficient intermodal service capability with fewer, faster container movements delivered at a lower operating cost and with higher margins - all backed by greater long term flexibility and fail-safe backups. The best way to scope out what was needed currently - and to match future growth - was to build all the processes we'd need from the ground up."

The two Total Logistics consultants ran a series of workshops over a six week period involving Tilbury's project management, IT, engineering and warehouse operations. The result was 37 separate process flow maps covering every cargo movement from ship's deck to gatehouse and spanning yard management, intake as well as all automated processes, manual interfaces and the manual warehouse. Following approval of the maps by the Tilbury team and a review of initial infrastructure proposals, the maps were then issued to Stora Enso as the operational blueprint for the Enterprise Distribution Centre.





Managing the Tender

The second stage of Total Logistics' role was managing the supplier tender process, with all bids to be judged against the URS, FDS and process flow frameworks. The bid from warehouse/container management specialists Swisslog and their crane and conveyor automation sub-contractors Accalon AB was approved: the Total Logistics frameworks formed the basis of the subsequent implementation contract for the Enterprise DC. Swisslog's warehouse management system would control all the different zones – manual warehouse, automated warehouse, container stack and yard – within a single system. Total Logistics also developed the technical schedules for the contracts to ensure that appropriate Standards of Performance and Tests of Completion were included.

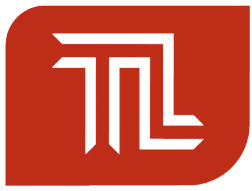
The implementation stage of the project required on-going input from the Total Logistics team. With the project frameworks and infrastructure suppliers in place, they helped to define roles and project teams, define the product streams, revise the process flows and develop the testing procedures as the build took place. The key requirement was to ensure that the combined team had clarity at every stage: that meant specifying the deliverables and the minimum resourcing levels required from each implementation committee, IT in particular.

Open for Business

Tilbury's Enterprise DC was opened for business in summer 2005, on time and on budget. The finished site features a 9,263m² automated warehouse with a 30m tall, 29,000 position High Bay served by seven automatic Accalon AB stacker cranes, each running in a 115m aisle; a 22,000m² manual warehouse; plus a large yard and trailer area for the SECU container stack. Around 95 SECU containers filled with paper reels arrive from Scandinavia each week in three inbound sailings: containers are stripped from the vessel automatically via the Swisslog WMS - or manually - and moved to the container stack. They are then typically moved to the warehouse, emptied using a Loadmate and then the paper reels are removed using reel-pick gantry robots that employ an innovative suction method to avoid damaging the paper inside. From there, all storage, picking, marshalling and despatch transactions are managed by the WMS, using both automated and manual warehouses.

Says Tilbury's Kirk: "The URS, FDS and the process flows formed the core of what we wanted and were critical to the long term success of the project. With an undertaking of this size – one of the most recently ambitious undertaken at any port in the world – we needed accurate performance and requirement benchmarks. Nearly three years since the start of the project, they remain accurate and we still use them as our operational points of reference. Project Enterprise was a significant first step into fully automated container management for us and Total Logistics provided the framework, skills and disciplines to design gapless process flows. The flows could be easily understood at the tender stage – we had few queries - and easily implemented during the build.





TOTAL LOGISTICS

the complete supply chain consultancy

“The result is a strategically important, profitable distribution centre with high levels of productivity, impressive system uptime plus fast stock handling and turnaround. Total Logistics have made a significant contribution to the delivery of an operation that is standing the test of time,” he finished.

