



SWORD

UPGRADE YOUR BUSINESS

SwordCTSpace

Transportation Reference Projects

Sword CTSpace solutions enable transportation companies to reduce operating costs, improve efficiency and minimize risk ensuring effective communication of key documents across the supply chain. Sword CTSpace is currently involved in Transport projects worth a total value of over \$40 billion.

- **Chicago Transit Authority : the nation's second-largest public transportation system - Amount : \$1.9 Billion**

The Chicago Transit Authority (CTA) has approximately 2,000 buses that cover more than 150 routes and 2,273 route miles. The buses provide about one million trips a day and serve more than 12,000 posted bus stops. CTA's 1,190 rapid transit cars operate over eight routes through 144 stations and 222 miles of track and provide approximately 500,000 customer trips daily. In an effort to continue to provide safe and reliable transportation services to help meet the region's growing transit needs, the CTA recently embarked on a five-year, \$1.9 billion Capital Improvement Program (CIP). One of the program's primary objectives is to integrate numerous individual projects to add new facilities and extend the life of the restored transit system by an additional 40 years.

- **Bay Area Rapid Transit (BART) - San Francisco**

Bay Area Rapid Transit (BART) is a rapid transit system serving the San Francisco Bay Area. The heavy-rail public transit system connects San Francisco with cities in the East Bay and suburbs in northern San Mateo County. BART operates five lines on 104 miles (167 km) of track with 43 stations in four counties. With an average of 346,504 weekday passengers, BART is the fifth busiest heavy rail rapid transit system in the United States. To speed up service, BART is preparing to introduce new, three-door cars. BART plans to start purchasing new cars in 2010, when it will have paid off other capital debt for track and car work, with the first 10 pilot cars arriving for testing in 2014. The order will consist of 200 base cars with two additional option orders of 250 cars giving a total of 700 cars to completely replace the original fleet. All 700 cars are to arrive by 2024.

- **The Dallas Area Rapid Transit (DART) 'Texas-size' Expansion On Track**

The Dallas Area Rapid Transit (DART) moves more than 200,000 people a day on light rail, buses, and vans across a 700-square-mile service area that includes 13 member cities. To accommodate this demand, now and in the future, more than 50 miles of new light rail lines, rail stations, transit and transfer stations are now being constructed as part of an expansion program that DART says is the largest light rail expansion program in North America.

RAILWAYS : Projects worth over \$15 billion

- **Over \$15 billion projects worth by RFF**

As the national network's owner, RFF (Réseau Ferré de France) is responsible for developing and upgrading the French railway network. Managing the construction of the new high-speed Rhine-Rhône 425 km long rail link, RFF was looking for a technology solution to help control and coordinate the project. RFF selected Sword CTSpace's solution for its powerful and flexible features with extensive functionality, yet easy-to-use interface ensuring rapid adoption by all users. Since its first use in September 2003, Sword CTSpace became the unique collaboration solution on the project with 250 current users. Sword CTSpace has quickly proven to be essential on the project.

"There are huge time savings to be made in managing our processes online. Improving efficiencies in our core activities will provide a significant competitive advantage, and an improvement in value delivery to our shareholders."

Mike Welton, CEO, Balfour Beatty

RFF is working with Sword CTSpace's solution on :

- **The High Speed Line GPSO (South-Western projects) – Amount: about \$4,46 billion**
- **The High Speed Line Brittany - Pays de la Loire - Amount: \$3.53 billion**
- **The High Speed Line Rhine-Rhône, East branch - Amount: \$3.72 billion. Delivery: 2011**
- **The High Speed Line Rhine-Rhône, South branch - Amount: not defined. Delivery: not defined.**
- **The LGV SEA (South-Europe Atlantic). Amount : 1st phase (Angoulême-Bordeaux) \$2.54 billion. Delivery: 2013**
- **The Haut-Bugey (Paris-Geneva) – Amount: \$506.7 million – Duration: 32 months**
- **The High Speed Line SEA (South Europe Atlantic) link, Tours-Bordeaux - Amount : \$331.3 million**
- **The Nantes-Chateaubriant link reopening (west of France) – Amount for preliminary studies: \$214 million. Delivery: 2013**

SUBWAYS: Projects worth over \$8,9 billion

- **15-year management of London Underground (UK) - Amount : more than \$8 billion. Duration: 15 years**

Transport for London and associates are responsible for the simultaneous upgrade of 70 stations and track works. They are using Sword CTSpace's solution to improve document management and communications, on this massive infrastructure project, which saw more than 1,000 users and 40,000 documents within the first 4 months of use.

- **Station modernization and civil engineering works by Trans4m (UK)**

Trans4m is a London-based joint venture organization operating in the railway engineering sector. To operate effectively, Trans4m and its supply chain require significant volumes of information and documents, historically held by the client in disparate locations. Sword CTSpace's solution has helped Trans4m with standardization of processes across consortium and improved visibility and availability of work.

- **Extension of the metro line number 12 (Paris, France) - Amount : \$438.3 million. Delivery: 2012**

RATP, the major transit operator responsible for public transportation in Paris and its environs, selected the Sword CTSpace platform through its engineering company Xelis. This project will see the extension of line 12 by 3 km and 3 new stations.

- **Extension of the line B metro in Lyon (2nd biggest subway network in France) - Amount : \$288,2 million. Delivery : 2013**

This project will see the extension of line B which links the suburban city of Villeurbanne to the south of Lyon by 1,7 km, with a pass over the Rhône river to reach the city of Oullins. This project is part of the south-western city development plan of the Lyon metropole and will ensure a more efficient transportation network in this area. SYTRAL, the government agency in charge of all transportation for the Rhône county and the Lyon Metropole, selected the Sword CTSpace platform to optimize and streamline communications between all partners of the project.

- **10-year survey and refurbishment of the Forth Rail Bridge (UK) - Amount : \$148.6. Delivery : 2009**

This 2.7km rail bridge was built in 1890 and as such the metal structure requires constant maintenance. Sword CTSpace provides RailTrack with a more efficient means of communication between the day team and the night-time maintenance staff. With 24/7 access, the project team can get access to the latest versions of documents at any time.

ROADS, MOTORWAYS, TUNNELS, BRIDGES : Projects worth \$7,2 billion

- **The California Department of Transportation (Caltrans) project (California, USA) - Amount : \$2.6 billion**

The California Department of Transportation (Caltrans) has allocated an estimated \$2.6 billion to seismically retrofit five Northern California toll bridges including the Bay Bridge, the Coronado Bay Bridge in San Diego and the Vincent-Thomas Bridge that spans the Port of Los Angeles. Nowhere in the world have bridges as

RAILWAYS



"The benefits of Sword CTSpace solution were immediately felt by the whole project team. At every stage on the project we can now save time and money through instant access to project information and we have already noticed a reduction in errors." **Xavier GRUZ, Project Manager, HSL Rhine-Rhône, RFF**

SUBWAYS



"Trans4m is involved in a momentous construction program involving the management of huge numbers of documents, processes and people. The on demand Sword CTSpace's document management and collaboration solution is central to our operations and ensures all members of our project teams can quickly request and access information using a structured and audited processes." **Kevin Ives, Business Systems Manager, Trans4m**

structurally complex as these been seismically reengineered to withstand the structural harm posed by potential earthquakes that are a constant threat to this state.

- **\$1.78 billion A65 motorway in France by Eiffage and Sanef**

In December 2006 a consortium made up of Eiffage and Sanef was finally granted the contract for the financing, construction, operation and maintenance of the A65 – a new 150km toll motorway between the towns of Langon and Pau, located in south-west France. Eiffage is the 7th largest general contractor, construction and services company in Europe, and Sanef is a leading operator of a network of toll roads in Europe and part of Abertis group. The A65 motorway, which is expected to be complete by the end of 2010, will offer a fast link between Langon, situated close to Bordeaux, and Pau, facilitating regional, national and international traffic.

- **Limerick Tunnel Ireland - Amount : \$743 million. Delivery : 2010**

The Project is one of a number of road schemes in the process of being procured by the National Road Authority (NRA) under the Irish Government's overall road development program. This development program envisages a substantial investment in Ireland's road infrastructure, with a key element of such investment being financed through Public Private Partnership ("PPP") transactions. The Project is one of 8 identified by the NRA as suitable for development as a PPP scheme. It will form part of the strategic national primary route network linking all national routes around Limerick and will involve the construction of a new national primary route connecting the existing Limerick Southern Ring Road Phase 1 and N20 Cork/Kerry road with the N18 Ennis – Limerick road via a tunnel under the River Shannon. The Project will provide a 10 km dual lane motorway which bypasses and serves Limerick City and also provides a 2km link to the City at the Clonmacken interchange. The existing ground profile is through mainly flat agricultural land.

- **Various road, motorway and tunnel projects worth \$1.06 billion in the UK by Balfour Beatty (A3, A120 roads, M77, M25 motorways, etc.)**

- **Road project for A303 Stonehenge tunnel by the UK Highways Agency: \$1.03 billion**

Sword CTSpace's solution is being used by the project team on this highly sensitive project to ensure that all documentation is held in one central location and conflicts can be resolved quickly by maintaining a complete log of all communications, tasks and documents exchanged.

TRAMWAYS: Projects worth over \$971,5 million

- **Brest Tramway (Brest, France) - Amount: \$443 million. Delivery: 2012**

The Brest Metropole chose to delegate the construction of its first tramway line, 12km long, to the SemTram consortium, made up of two companies: Sem du Tcsp and Semaly.

- **Tramway T4 (Lyon, France) - Amount: \$275 million. Duration: 27 months**

The construction of a new tramway line in Lyon with a maintenance centre; 10 km long encompassing 18 stations. This new line will be connected to the metro network, the bus network, the T2 tramway line and the SNCF railway station.

- **Express Tramway line LESLYS (Lyon, France) - Amount: \$148,5 million. Duration: 36 months**

Vinci, the major general contractor, selected the Sword CTSpace platform to support document exchange and collaboration between the numerous partners participating in the construction of the tramway line LESLYS. This express line will link two of the major stations in the Lyon area, Part-Dieu station and Lyon Saint-Exupéry international airport, by 25 minutes tramway journeys. Today this journey is serviced by a notoriously unpredictable bus service that takes 40 minutes.

- **TCSP Pompadour project (Paris suburb, France) - Amount: \$105 million. Delivery: year-end 2010**

The TCSP project, today planned as a bus route but the possibility of a tramway has also been considered, is located in the south-western suburbs of Paris, Val de Marne, between the Pompadour crossing in Créteil and the suburb train station of Sucy-Bonneuil. The link, which is 6,5 km long, involves a transport platform, pedestrian and bicycle paths, various crossings and streets and five bridges. Estimated figures are around 5.5 million travelers a year.

ROADS, MOTORWAYS, TUNNELS & BRIDGES



"Currently in the design phase, the A65 project involves a dozen companies participating on this complex project. Sword CTSpace solution has been very easily adopted by all Eiffage collaborators and other stakeholders of the project. It enables a high visibility on all project proposals, allows to make quick decisions on the different technical proposals and ensures a good communication between all suppliers."

Bruno BECKER, Technical Director, GIE (Economic Interest Grouping) A65 Pau-Langon

TRAMWAYS



Lyon's tram



"During the Design phase, we decided to use Sword CTSpace solution to facilitate the coordination of the different prime contractor partners (COTEBA, ASCO, EPDC, HYL and Salomon). We exclusively used the platform until the subcontractors were selected. Then, we decided to continue using Sword CTSpace solution for the current Building phase, as our coordination requirements become more important as more companies become involved in the project. Sword CTSpace solution is a very flexible solution that perfectly fits our project requirements: it is simple to use for the design phase, yet has very powerful functionalities for the Building phase."

Christian Poumeau, Project Manager, TCSP Pompadour, Coteba Développement

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