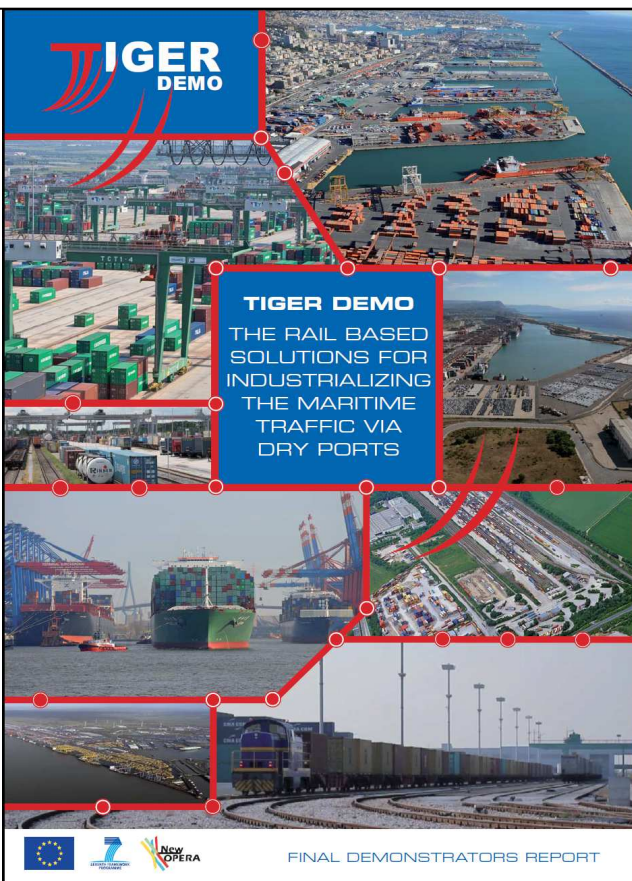


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The European Union's Sea Ports & their Hinterlands Facing the New Challenges of Maritime Traffic

By Franco Castagnetti, TIGER DEMO Project Leader

The TIGER Project posed initially the challenge of keeping the traffic moving in the European Sea ports following the introduction of giant CT vessels having capacities of 15000 TEU or more. About 150 of these vessels are now on water and the economies of scale so generated impose the adoption of innovative logistics concepts for moving the traffic in the hinterlands. TIGER DEMO project introduced a new business model based on the Inland Dry Ports where rail transport industrialisation is implemented with time table/high frequency shuttle services to/from the Sea Ports at reduced costs. The idea is to bring the ships nearer to the ultimate customers. The use of innovative ICT technologies coupled with e-seals, e-freight, e-customs, e-security, RFID tags, reading devices, tracks and trace, capacity management, investments in equipment and infrastructures have simplified the overland transport chain delivering improved productivity and shorter transit times. The Sea Ports regained as a result their original mission of linking sea with land achieving in the process greater traffic fluidity.

Issue 3 December 2013

TIGER DEMO

TIGER DEMO is the acronym of *"Trans-rail Integrated Goods European – express Routes DEMONstrators"*.

The project officially started on April 1st 2011 to last 33 months. So far, two TIGER DEMO newsletters have been issued and this is the third and FINAL one delivered at project closure.

The FINAL TIGER DEMO Event which took place in Genoa at the Museo del Mare on December 13th 2013, was organized together with MOS 24 TEN T project also co-financed by the European Commission. The combination of two projects into one single conference allowed to achieve benefits from cross fertilisation by underlining both projects' missions. MOS 24 centred on the Motorways of the Seas while TIGER DEMO focused on the traffic fluidity and optimization on the hinterlands. The event was very successful being attended by more than 120 delegates from all over Europe. All the attending delegates were handed over the TIGER DEMO FINAL REPORT BOOK containing the description of the Project fundamentals, the transition from the TIGER Pilots, the Work Packages development for augmenting the Pilots, the full scale demonstration into an industrial scale, the impacts' evaluation, the internationalization of the demonstrated solutions up to the TIGER DEMO project results and recommendations. The full scale demonstrators thanks to TIGER DEMO continued after the project closure becoming permanent rail service features to/from the reference sea/dry ports having achieved excellent commercial performances in terms of higher punctuality, lower operating costs and positive environment impacts.

The 3 TIGER DEMO demonstrators

The original TIGER Project Pilots were four but only three of them could be developed into full scale industrial demonstrators. One pilot called Mariplat involving the transshipment ports of Gioia Tauro and Taranto with Bologna Interporto dry port, could not be upgraded into a full scale demonstrator despite the trains Pilot results were positive. The Taranto Port having undertaken major works for handling the latest giant CT vessels dried up during this process its existing CT traffic. As a consequence the Gioia Tauro port could not provide by its own the cargo volumes necessary for sustaining the frequent rail service based on Bologna Dry Port via the Adriatic line originally planned as a "Y" configuration by merging the two traffic flows in Bari. The three remaining demonstrators were developed as planned.



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The 3 TIGER DEMO Demonstrators



Fig. 1. Genua Fast Corridor (GFC) "LOOP" and new Genoa Port accessibility - Source : TIGER-TIGER DEMO Projects

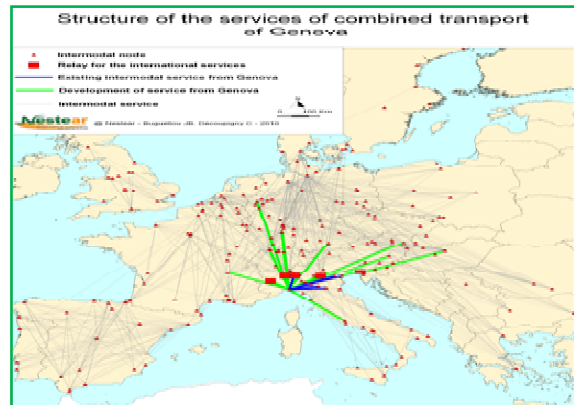


Fig.2. The new competitive reach(Green) of Genoa Port - Source: TIGER- TIGER DEMO Projects

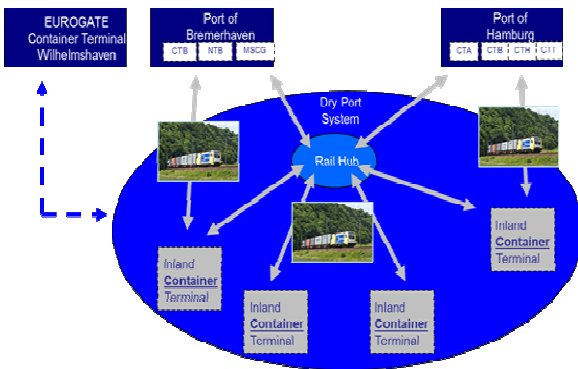


Fig.3. Innovative Port & Inland operations "iPORT Web" concept: Close to Port & Close to Market - Source: TIGER-TIGER DEMO Projects

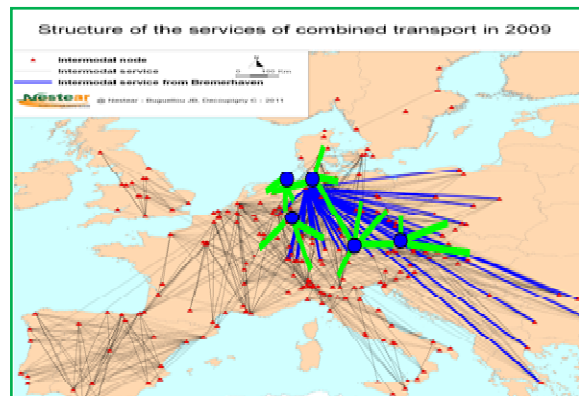


Fig.4. The new iPORT Distribution model(Green) - Source: TIGER-TIGER DEMO Projects



Fig.5. Intermodal Network 2015h5 "Mega-Hub,-SPIDER" concept- Source: TIGER-TIGER DEMO Projects

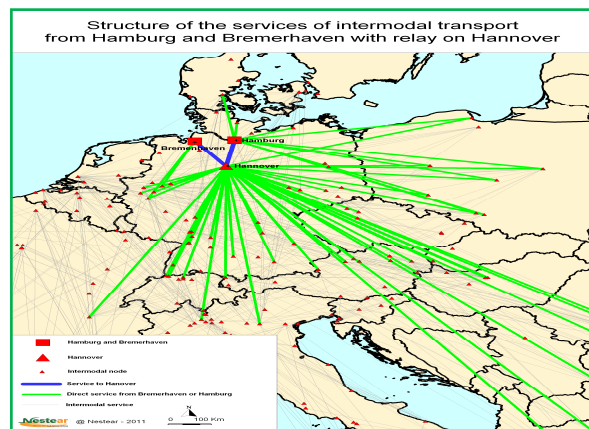


Fig.6. The new MEGA-HUB Distribution model (Green) supplementing/complementing the existing German Ports competitive reach - Source: TIGER- TIGER DEMO Projects



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The **Genoa Fast Corridors** results under TIGER DEMO projects were multi folds:

- Cooperation between 3 different terminals TSG, PSA Voltri-Prà and ATI Ignazio Messina-TSG was achieved in the Genoa Port, together with the Introduction of new operational concepts involving processes, technologies and operating rules.

- RTE was authorized as Genoa Port Customs Area so that all Customs formalities can be accomplished without transit interference in Rivalta Terminal Europe.

- The Deployment of ICT Technologies in the whole logistic chain with Integrated container management systems producing shorter transit time & service improvement were implemented during the project lifetime.

- New Business Model for "shuttle train loading and dispatching" combined with new operating technologies & innovations were introduced.

- E-customs, E-seals, E-freight procedures were tested and implemented

- Substantial Investments in infrastructure and equipment were realized exceeding 100 MM Euro.

- The Sea Port dwell time & transit time were reduced by 37% together with lower operational costs & service quality improvements. The Genoa port geographical accessibility and competitive reach were greatly enhanced. The extended quay port concept in Rivalta Terminal Europe was applied to a large scale.

- Volumes exceeding 40000 TEU were moved with about 500 shuttle trains during the TIGER DEMO project duration.

A video was produced to better describe and illustrate these operational innovations and achievements.

The **iPORT** Innovative Port & Hinterland Operation fulfilled completely its objective of decongesting the sea Port areas.

- The "Close to the Port" concept realised at Nienburg rail hub started originally with 3 trains/week in the pilot phase to increase to 12 trains during TIGER DEMO and up to 18 trains per week under full scale demonstration. More than 400 trains were operated under this scheme moving a traffic volume exceeding 32000TEU. The traffic bundling concept was applied in Nienburg for traffic optimisation.

- The Terminal dedicated trains approach was implemented. No shunting to take place in the seaport.

- New technologies & innovations were largely applied using ICT tool for supporting wagon dispatching and slot management.

- The Centralised maintenance and repair concept was applied. Additional wagons for backup fleet were provided for balancing irregularities so that the trains could move without problems

- Investments in ICT technologies, equipment infrastructure adaptations and lease commitments in Nienburg were realised. Additional staff had to be provided for new rail production concept in Nienburg.

- Dwell time on Hamburg seaport rail net reduced significantly. With Increased punctuality in the seaport terminals to 85 %. The Overall improved competitiveness of intermodal transport became evident right from the Project start up.

- In March 2013 a similar operation was introduced in Bremen terminal. All in all more than 80 transit were handled via Bremen, transporting more than 4000 TEU.

The "Close to the Market" operational scheme was realized in Poznan(TIGER) and Munich Riem(TIGER DEMO).

- Increased shuttle train frequency was achieved between seaports and the hubs in Poznan and Munich Riem.

- The hinterland processes such as customs were finalized.

The "BLU Opti": Optimisation of hinterland processes implemented with train monitoring & customer interface.

- The train capacity was optimized together with the Infrastructure capacity.

A video was produced for synthesising these excellent results.

The **MEGAHUB** Intermodal Network 2015+ was itself a success story. The TIGER DEMO project demonstrator took place in Munich Riem since the Lehrte Mega Hub is still under construction. A second tri-modal demonstrator was fulfilled between Frankfurt – Ludwigshafen and Trieste for onwards prosecution by sea to Greece and Turkey. New production concepts were tested and applied. Substantial investments in terminals and mega hubs infrastructures have been executed or are in course of execution exceeding 300 MM Euro. The results for the Munich Riem demonstrator are:

- Double- sided electrified rail access and high-performance gantry cranes saving time & costs.

- Direct train entrance (with momentum) and direct exit to/from rail terminal saving manoeuvres costs as well as operational timing.

- Timing and controlling of crane operation for optimized rail-rail-transfer allowing train/train transhipments without touching the ground.

- Strong ICT-support based on improved IT-systems connecting both Terminal and Intermodal operators.

- Centralised capacity management of hub-trains allowing guaranteed space on the connecting relaying trains to destination.

- The Train Monitoring in real-time

- Close co-operation has been fulfilled between Rail Undertakings, Terminal and Intermodal operators keeping everyone on the information loop.

The second Demonstrator between Frankfurt-Ludwigshafen to Trieste for onwards prosecution to Greece and Turkey is a full tri-modal service using innovative wagons technologies. -Double Pocket Wagon „T3000“ were deployed into the service. They can carry 2 semi-trailers 13.6 m, or 4 swap-bodies 7.82 m. Their total length is 34.2 m for a total weight of 135 tons and a payload 100 t (at 22.5 t axle load).

- The new service has a frequency of 3 departures per week in both directions putting together a variety of operators all along the transport chain including the service organizer Kombiverkehr, the rail companies the traction companies, the intermodal operators, the terminal operators, the shipping lines to Greece and Turkey. The Co-modal approach has been totally fulfilled in this innovative demonstrator becoming a permanent service feature connecting Central Europe to the Mediterranean and the East Med.



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TIGER DEMO Project Final Conference:

"THE E.U SEA PORTS & THEIR HINTERLANDS FACING THE NEW CHALLENGES OF MARITIME TRAFFIC"

Genoa 13th December 2013 – NEWOPERA and Genoa Port Authority, supported by the European Commission, organized the TIGER DEMO Project Final Conference held on December 13th in Genoa at Museo del Mare with Official presentation and delivery of the TIGER DEMO Final Report Book

The TIGER DEMO project, co-funded by the EU FP7th program, which started in April 2011 is due to close on December 31st 2013. TIGER DEMO, having the objective of demonstrating the TIGER innovative solutions for avoiding congestion in European ports stands for Trans-rail Integrated Goods European-express Routes DEMONstrators. Hundreds of intermodal trains have been operated during the project lifetime. New rail services have been opened to/from Sea Ports of Genoa, Hamburg-Bremerhaven, Wilhelmshaven and the hinterlands bringing relief to congested Sea Ports by applying the extended quay concept. New distribution strategies of "Close to the Port" and "Close to the Customer" have been implemented. A new intermodal service has been baptized by Kombiverkehr from Frankfurt to Trieste for Greece and Turkey. All these new services will continue to operate as permanent links after the Project closure,

TIGER DEMO Project used the existing European Rail infrastructures with the adoption of new business models based on more efficient/faster transit from the Sea Ports to the Dry Ports at inferior costs. Investments in technology, transport management systems, innovative e/customs, e/seals, e/freight solutions and the upgrading of infrastructures for correcting bottlenecks and expanding terminal capacities, have been the project integral parts. TIGER DEMO accomplished its objectives of demonstrating the importance of Rail freight industrialization, supporting and reinforcing the regulation of the "European Rail Network for competitive Freight" which has become law in November 2010.

The Ports interested in the TIGER DEMO Project are: Hamburg, Bremerhaven, Wilhelmshaven, Genoa and Trieste.

The Conference was opened by the Genoa Port Authority President Mr Luigi Merlo and the European Commission.

Mr Franco Castagnetti, TIGER DEMO Project leader, officially presented the **TIGER DEMO FINAL REPORT BOOK** titled "THE RAIL BASED SOLUTIONS FOR INDUSTRIALIZING THE MARITIME TRAFFIC VIA DRY PORTS", which was delivered to all the Conference delegates. The Conference was divided into 4 sessions where all the Maritime and Overland Transport actors such as Ports, Intermodal and Terminal Operators, Shippers, Rail Industry representatives, Shipping Lines, MTOs, Forwarding Agents, Infrastructure Managers elaborated different ideas and solutions for resolving present and future traffic challenges. The TIGER DEMO Project Demonstrators were presented by the Demonstrators Leaders who described the solutions implemented in the market place. Two films, one for German Ports and one for Genoa, were also presented to the audience.

TIGER & TIGER DEMO Projects mobilized private investments in Hubs/Dry Ports Infrastructures-Equipment and Management systems in excess of 300 million Euro. Innovative ideas for a better use of the existing resources and of the European Rail Network have been the TIGER & TIGER DEMO drivers through its entire Project life.

The Conference was very well attended by over 100 delegates from all over Europe.

FURTHER INFORMATION ON THE TIGER DEMO PROJECT CAN BE FOUND ON THE FOLLOWING WEBSITES

www.tigerproject.eu
www.tigerdemo-project.eu
 +++ ENDS +++



Dissemination: Events with TIGER DEMO as from September 2012- Previous ones in Issue N 2

13 December 2013 , Genoa – TIGER DEMO FINAL CONFERENCE with MoS 24
5 December 2013 , Vienna- Rail Net Europe Conference
20-22 November 2013 , Rotterdam – F&L Conference
11-12 November 2013 , Vienna –Trans. Ministry Innovation
15-18 October 2013 , Tallinn – TEN-T DAYS
9 October 2013 , Hamburg – TIGER DEMO at INTERN-INTERMODAL EUROPE 2013
3-4 October 2013 , Vienna- Transp. Ministry Eco mobility
19-20 September 2013 , Genoa – Genoa Shipping Week
18-20 September 2013 , Vienna – BESTFACT
17 September 2013 , Brussels – ERRAC Steering Comm.
17-23 August 2013 , Alpbach - European Forum -
3-7 June 2013 , Munich – Transport & Logistics
23-25 May 2013 , Istanbul – F&L Conference
14-15 May 2013 , Vienna - Logistik Dialog 2013
26-27 April 2013 , Catania – CISCO North/South Conf.
23-25 April 2013 , Birmingham – MULTIMODAL 2013
20 March 2013 , Brussels - ERRAC Support Group
19-21 March 2013 , Vienna - Signalling & Train Control
14-15 March 2013 , Vienna - Logistics Dialogue
28 February 2013 , Brussels – European Railway Award
5 February 2013 , Dubai – Middle East Rail Conf.
28 November 2012 , Amsterdam - TIGER DEMO at INTERMODAL EUROPE 2012
27-29 November 2012 , Brussels - TEN-T DAYS
8-9 November 2012 , London – F&L Conference
17-19 October 2012 , Tangiers – Global Rail Freight Conf.
2 October 2012 , Rome –Italian Parliament Seminar
27-September 2012 , Brussels - TIGER Final Event

TIGER DEMO FINAL EVENT -Museo del Mare – Genoa December 13th 2013 - PICTURES

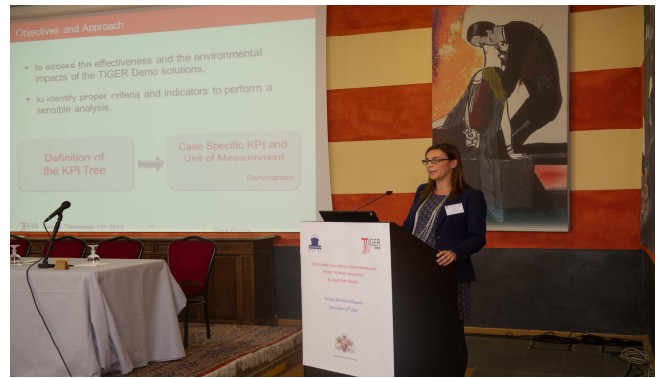


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The TIGER DEMO Project Partners

The Partners incorporate technical, commercial, engineering, marketing resources and know-how in several fields of activities. These extend from infrastructure management, rail operations, port management to intermodal handling operations. Vital competencies include intermodality, inland dry ports and freight villages operations, Port Authorities, Institutional Regional Governments, engineering, software & management system technologies as well as marketing & research. Sectorial association connected with Rail industry are also present in the Consortium.



Interporto Bologna SpA



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