



COMCIS

# Taking the extended gateway to the next level

Europe's terminal operators face significant challenges as growing demand, increasing competition between ports, maxed out road infrastructure and the advent of ultra-large container ships create ever-greater logistical bottlenecks and threaten to drive down fees.

Europe Container Terminals (ECT) is one company that is moving proactively to meet the challenges. The largest container terminal operator in Europe, with three deep-sea terminals in the Port of Rotterdam, ECT reacted early to the emerging trends by developing a new strategy based on exploiting Rotterdam's vast hinterland, which runs from the UK to the west, through the Netherlands and on down to southern Germany.

The extended gate concept of pushing containers from deep-sea terminals to multimodal hinterland terminals has been around for a while and offers significant benefits. It places customs and commercial release closer to the customer, so reducing waiting times, smoothing out the peaks and increasing predictability. It makes greater use of rail and waterways, so lowering CO2 emissions and easing the pressure on stressed road networks. And the extended gate concept enhances flexibility and responsiveness through synchro-

with enormous peaks," explains Arno van Rijn, who is responsible for business development within ECT, "and one way to reduce the peaks is to move those containers to the hinterland, rather than waiting for them to be picked up."

#### FROM GOOD TO GREAT

While the benefits are obvious, capturing them depends on innovation in the whole chain. With this in mind, ECT set up a subsidiary, European Gateway Services (EGS), to manage hinterland transportation. One of its tasks was to explore ways to take the hinterland model to a new level of performance. "We were focusing on several innovative topics that we felt could further enhance our already successful extended gate concept," says Van Rijn.

This led ECT to join COMCIS, a European project to explore the use of information for improved sea/hinterland interfaces, "The COMCIS project helped us in three specific areas," notes Van Rijn.

One of the innovations ECT was pursuing was based on work done in an earlier EU project to develop a so-called "discharge predictor". This would make it possible to predict exactly when a specific container would be unloaded and available for onward transportation, based on its location in the ship and the unloading plan. Making



modality – making optimal and dynamic use of all modes of transport and available capacity at all times – and so reduces costs. "Vessels are getting bigger and bigger, call sizes increase and, more and more, our deep-sea terminals have to deal

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that information available to planners would enable not only efficient terminal operations, but also support more efficient and reliable delivery into the hinterland.

#### CONNECTIVITY UP, LEAD TIMES DOWN

ECT's primary interest in COMCIS was to optimise the exchange of information between its sea terminals and hinterland operations, and so raise reliability further. With this in mind, the COMCIS team defined three goals for its participation in the project: 1), to unlock the potential of available data, of which the "discharge predictor" is a prime example; 2), to present relevant information to operational decision-makers on a need-to-know basis; and 3), to further push commercial release (Extended Line Release) to the hinterland and so enhance the fast throughput of cargo through the sea terminal. **"Our customers are looking for reliability, and accurate information on the alignment between sea and hinterland operations is key,"** explains Van Rijn.

#### About COMCIS

COMCIS was a two-year project to explore the possibilities and commercial viability of employing situational awareness tools to solve problems of data fragmentation, delay and inconsistency throughout the global supply chain. The project used the Common Framework supporting interoperability between ICT systems in logistics and deployed a three-layer architecture based on:

1. Aggregating data from multiple sources without requiring changes to the underlying IT systems;
2. Standardising data so that it could be processed by value-added services, independent of its original source and format;
3. Consolidating data to create on-time, qualified and derived information that could support operational decisions by delivering the right information to the right person, at the right time, in a user-friendly way.

The COMCIS project ended in September 2013, but the ideas and technologies continue to be developed by the participants. COMCIS was co-funded by the European Commission.



Achieving these goals would demand significant strides in technology and processes, as well as new agreements. Improving transportation management to and from the hinterland terminals, for example, would involve developing a Synchronodal Dashboard that would combine ECT container data, EGS booking data and hinterland transport data – and making it easily available within both EGS and ECT. Better insight would require further improvements to the Discharge Predictor. Introducing Extended Line Release would involve aligning IT systems and, crucially, agreeing legal and commercial checks between ECT, EGS, carriers, port authorities, customs and others.

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## Benefits at a glance

- Improved insight thanks to Discharge Predictor.
- Over 95% of discharge predictions made proved accurate.
- Synchromodal Dashboard concept allows both ECT and EGS to check hinterland and sea-port information without leaving “their” system.
- Research into Extended Line Release indicates full-scale introduction at ECT’s terminals could potentially cut time on terminal by 33% (and even by 74% if paperless customs entry also adopted).

The COMCIS approach (see box) proved robust. In trials, the Discharge Predictor proved capable of successfully aggregating load plans, crane planning and carrier ETAs. Over 95% of the predictions made proved accurate. The Synchromodal Dashboard concept of consolidating data from the existing ECT and EGS systems meant operators from both ECT and EGS could check hinterland and sea-port information without leaving “their” system. And research into the third KPI, Extended Line Release, indicated that full-scale introduction at ECT’s terminals in Rotterdam could potentially cut time on terminal by 33% (and even by 74% if paperless customs entry was also adopted).

## BUILDING THE NEXT GENERATION OF SOLUTIONS

With the COMCIS project concluded, ECT is pushing forward on two fronts: further developing the dashboard concept, and rolling out the Discharge Predictor across ECT. “I expect a lot from the Discharge Predictor tool,” says Van Rijn, “because the sizes of deep-sea vessels keep getting bigger, plus people want to know exactly when a container will be available. **The Discharge Predictor tool can be a unique selling point**, because it enables us to plan hinterland transport better and earlier.” As for the dashboard, Van Rijn sees a future role for that too. “The potential benefits of the dashboard concept have been proven and now we are exploring the best way to bring it into operations.”

Overall, Van Rijn is enthusiastic about the benefits of situational awareness-based systems in logistics. “We know a lot more than we did two years ago [2011, when COMCIS began]. **We have learned a lot about gathering data, connecting data, standardisation, and, with small-scale pilots and trials, we have proven that the potential benefits exist.**”

## Further information

The Extended Line Release and Discharge Predictor were developed by ECT and TNO. The Synchromodal Dashboard was developed by ECT (back office data aggregation) and Logit Systems BVBA (data consolidation and dashboard). This was demonstrated as part of the operational track of the COMCIS project, delivering proof that results from past EU projects could be economically viable and implemented operationally.

**For more information:** Go to <http://www.comcis.eu/ect.html> or contact:

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