



FINAL ACTIVITY REPORT (Lo Pinod Project) SITTINGBOURNE – RIDHAM DOCKS

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The project has been co-funded by the North Sea Region programme, part of the EU Inter-regional (INTERREG) initiative. LO-PINOD aims to challenge existing thinking on freight distribution and offer more sustainable alternatives. For more information visit www.lopinod.eu

Introduction and Summary

1. Kilbride set out in this project to review the opportunities for the development of the economic hinterland at Ridham docks using the rail infrastructure and then to deliver the initial investment in the delivery of the infrastructure.
2. As work package leader (WP 3) Kilbride Group has also written the Port Development Strategy drawing together the conclusions and recommendations of all 17 partners in the Lo Pinod project.
3. This report sets out the work carried out and the results achieved by Kilbride Group within the Lo Pinod project.
4. The outputs for Kilbride set out in the application for the Lo Pinod project were as follows:-

OUTPUTS	Targets	Achieved
Work Package		
WP3.1.1 and 3.2.2	Policy workshop	Completed
	Commercial agreements	Completed
	Ecological surveys	Completed
	Construction	Not achieved in timescale but material investment being carried out in 2015. No extension allowed.
WP 3.1.2	Questionnaire to partners	Completed
	Drafts synthesis Transnational experiences	Completed
	Recommendations	Completed
	Port reports	Completed
WP 3.2.1 and 3.2.2	Port development Strategy (JTAV)	Completed
WP 3.2.5	Regional port assessment	Completed

LO-PINOD project

5. LO-PINOD (Logistics Optimisation for Ports Intermodality: Network, Opportunities, Development) aims to challenge existing thinking on freight distribution and offer more sustainable and efficient alternatives. By improving short-sea routes, local ports and their inland connections, LO-PINOD activity is designed to encourage more freight to be distributed by sea. This can help reduce over-reliance on road transport, lessen the environmental impact of supply chains and deliver social and economic benefits to communities and businesses across the North Sea region.

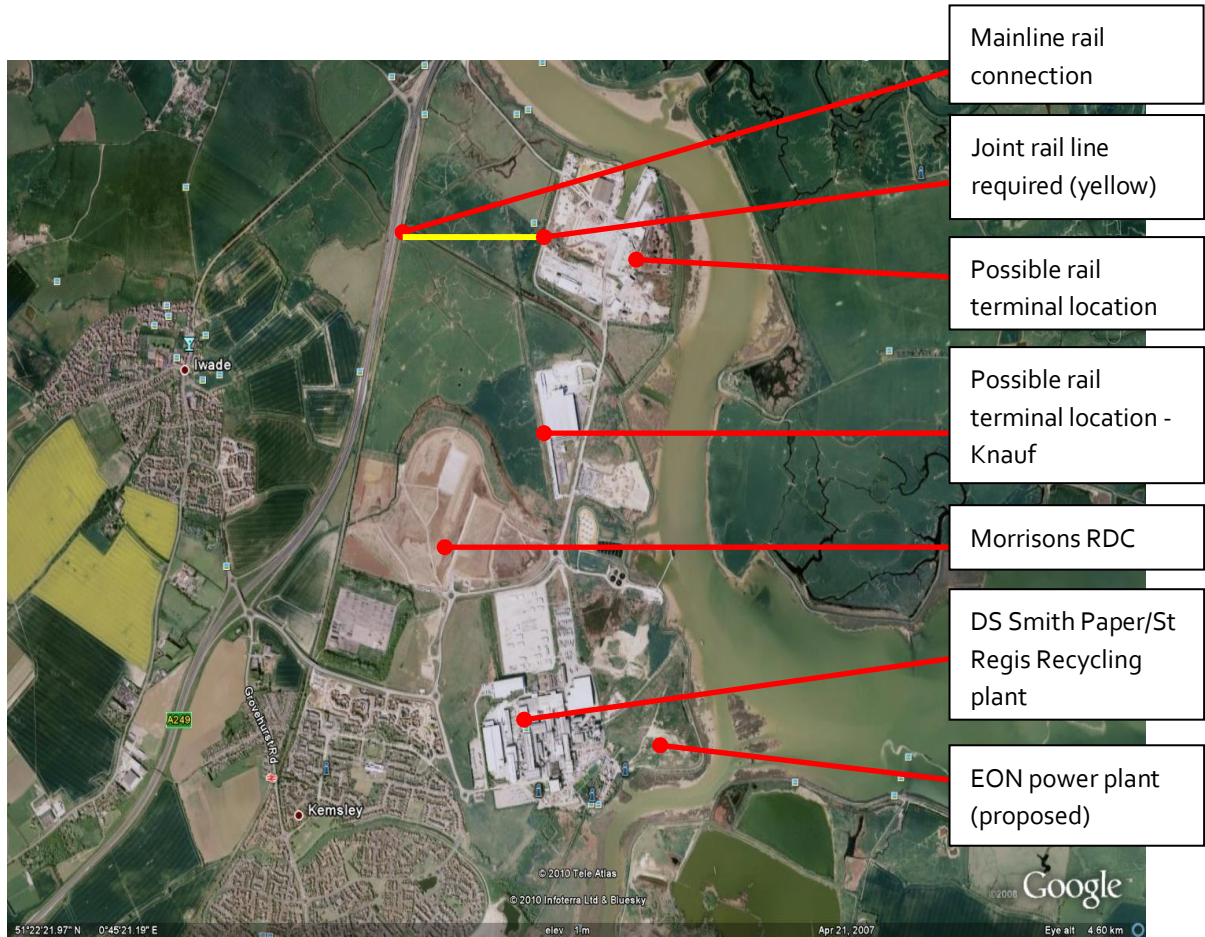
6. Globalisation and an increasing demand for goods and commodities have led to a growing requirement for freight transport in Europe. Freight movement by road is causing congestion on the main transport routes and around the larger hub ports, increasing the need to review how freight can be moved more efficiently and sustainably.
7. LO-PINOD partners focussed on improving accessibility to more isolated regions, lessening the environmental impact of freight transport and spreading growth and opportunity outside of the major port hub areas of the North Sea Region. Diversifying into new business areas will ensure local ports remain competitive and relevant. Exploring new opportunities and investing in upgrading port infrastructure is crucial to help increase maritime and logistics activities.
8. As part of the LO-PINOD project, with a focus on increased accessibility of ports, Kilbride has worked with Institute for Sustainability and port partners to draw together their experience of port development. Through transnational meetings, workshops, collaborations and networking Kilbride have identified the key issues and challenges faced by regional ports and the following Port Development Strategy. This proposes a roadmap for regional ports to increase their accessibility and develop multi modal connections, based on the experience and lessons learnt from LO-PINOD partners.
9. In addition Kilbride has looked at the feasibility of developing rail infrastructure at Sittingbourne/Ridham Docks and delivery of a material investment in the in infrastructure.

Sittingbourne/Ridham, Dock

10. The tenants of Ridham Docks, the port hinterland and the product coming over the quay side, are all traditional potential rail users and represent a significant target market for new rail operations. In order to open any rail service in the Sittingbourne/Ridham Docks area it will be necessary to reinstate the joint access line that runs from the mainline rail connection to the dock area and develop a suitable rail terminal.
11. Ridham Docks is located in Kent, Southeast England and sits next to the site of a former paper plant which has been demolished and is now being redeveloped. The dock's activities are concentrated on a small scale short sea shipping operation and a number of aggregate, minerals, construction and energy based activities. The former paper plant has been partly redeveloped to provide a development platform for new logistics warehousing. The first part of this area has been used by Morrisons retail logistics division to develop a 1m square foot regional distribution centre. The port hinterland has the following tenants who are potential rail customers:
 - a. Knauf plasterboard manufacturer
 - b. Morrisons RDC
 - c. DS Smith/St Regis waste paper recycling
 - d. Various logistics operations
 - e. Tarmac Aggregates

- f. Brett Aggregates
- g. Morgan Sindall Construction
- h. EMR recycling
- i. SITA recycling

Sittingbourne/Ridham Dock layout – present:



Planning context

12. The experience of the partners in LO-PINOD in relation to the planning policy area has been that although some ports in the North Sea Area have the support of the local authorities, there is still a multi layered approval process necessary for any new developments even if these are in line with the regional or town's planning policy.
13. Some consideration could be given to simplifying the approvals needed from rail, water and planning processes into a more streamlined process with a presumption in favour of development provided projects meet the policy objectives of the planning authorities.

14. An example of an improvement in planning policy support for intermodal terminals has been the UK SRFI planning policy guidance and National Policy statement.
15. Kilbride Group assisted in the lobbying of the UK Government to achieve a change in national planning for rail terminal developments, resulting in the publication of the National Policy Guidance for Strategic Rail Freight Interchanges, which detailed the position for all sizes of rail terminal developments. This was issued in November 2011 (see Appendix E) with the full National Policy Statement to follow in December 2014.
16. At Sittingbourne there was already support locally for the development of suitable rail freight terminals, but work was needed on the type of facility that could be provided. Sub partners EON/Wheelabrator prepared and submitted a planning application for in the development of a new rail freight terminal in Ridham Docks to serve their proposed 25MW Energy from Waste power station that had received approval.
17. The new rail terminal was restricted in size and function but could adequately serve this specific rail requirement, allowing waste to be brought into Sittingbourne via rail. A copy of the approved layout is enclosed in Appendix C.
18. This application required extensive design and ecological surveys to demonstrate the impact the terminal would have on the neighbouring Site of Sensitive Scientific Interest (SSSI), which is an EU designated bird sanctuary.
19. The costs for this application were not claimed in the end as part of the Lo Pinod project although the results were achieved, as the EU claim process proved too onerous for the sub partners, following the Mayor of London's decision not to award the North London Waste contract, thereby removing a significant rail customer in Sittingbourne.
20. An additional rail terminal location was sourced at Ridham Docks by Kilbride to service the non power plant/Waste rail demand. An abandoned disused rail terminal inside the dock was identified and works needed for its reinstatement designed and agreed with Network Rail. In planning terms the joint access line outside Ridham Docks linking to the national rail network required significant work and therefore ecological approvals from Natural England. Ecological surveys for that work were agreed and carried out by Kilbride drawing on the ecological studies carried out by EON/Wheelabrator.
21. Mitigation measures were necessary to ensure protected wildlife including greater crested newts were considered. This resulted in consultation with Natural England and surveys over a large areas of the SSSI.

Interface between rail, port and road infrastructure

22. The design and development of new port infrastructure is a complicated process involving not only the obvious associated complexities of individual infrastructure facilities, but complicated by the need to manage the flow of traffic and movement of goods to ensure an efficient port operation.

23. It is essential to avoid operational conflicts between flows of traffic over the quayside to road, rail and handling areas as well as the handling equipment use for each type of traffic flow.
24. It is necessary to have clearly defined and separated areas of activity and types of infrastructure so that road access is not compromised by for example rail movements to the quayside or the need for handling areas.
25. Health and safety is an essential part of the design process for new port infrastructure so that appropriate handling equipment is chosen to minimise the risk of accidents and maximise the efficiency of the port operations.
26. Kilbride designed the necessary rail terminal layouts inside Ridham Docks as well as the designs for the joint access line, which were agreed with Network Rail. Copies of the schematic layouts and individual potential terminals are shown in the plan in Appendices B & D.
27. Port design processes needed to identify all potential traffic flows associated and the handling and storage requirements of each flow, prior to designing the layout and detail of intermodal facilities in the port hinterland.
28. The Ridham Docks area was selected as the most likely final location for the new rail terminal, but three potential locations exist for the rail terminal:
 - a. To the rear of Knauf
 - b. Alongside sections A1, C A2 on the enclosed RPS plan (Ridham Coldharbour Rail Figure 2).
 - c. Within Ridham Docks (2 options: Bretts and EON)
 - d. See Appendix B for layouts and locations
29. The joint access line to Ridham Docks from the mainline connection needed to accommodate potentially two trains in the sidings at any one time and therefore a passing loop was designed with Network Rail, as per the schematic layout plan in Appendix D.
30. Train lengths were agreed at a maximum of 400 meters plus locomotive.
31. Shunting manoeuvres would require the mainline locomotive to pull the train into the joint access line exchange sidings outside the port and then to run round to the rear of the train and propel each section of train into the relevant rail terminal, ie the waste terminal or the Bretts terminal or the Knauf terminal (if developed).
32. Signalling arrangements would be through a manual ground frame on the site and access to the mainline controlled by national network signals.
33. Access lines to each of the terminals have been designed to allow maximum operational flexibility but train movements would best be served by one rail operator of a terminal shunter in the unlikely event that all three terminals were developed.

Traffic types and requirements

34. Morrisons: Daily trains of up to 400 m long intermodal container traffic from the central Midlands were envisaged requiring reach stacker operations at the terminals and the use of lorry skeleton trailer services between the terminals and the Regional distribution Centres. Container designs were to be as per the original Safeway Store Plc containers used in the first main rail movements for retailers in the UK. Train time arrivals were critical and needed to be at Ridham by 5am with turnaround within 24 hours to the northern destination resulting in fewer wagons and containers. Train operations would be 7 days a week covering one train per day. Research was carried out with the freight operating companies to identify suitable rail wagons taking into account gauge restrictions in the area.
35. Bretts Aggregates: Aggregate flows using standard top loading rail wagons at the terminal and 400m train lengths were envisaged with adequate storage areas at the terminal prior to onward movement by road. 150,000 t p.a. was identified as the potential demand. Timing of trains was not critical other than the need to minimise second shifts and labour costs. Supply contracts were disrupted due to changes in the availability of quarry products in the south east of England, resulting in rail contract not proceeding.
36. Knauf: The plasterboard manufacturer looked at rail movements from the North east of England to Sittingbourne to service the manufacturing process. Train lengths would again be 400m. Knauf did not secure the supply contract they envisaged which would have required rail operations.
37. EON/Wheelabrator: The waste trains would be up to 400m but the size of the terminal designed meant that the trains would be split into 3 instead of 2 sections increasing terminal and unloading time. This traffic would be better handled in a larger terminal, but the designed terminal was adequate and could operate with the other traffic flows. The design of the terminal had the unloading sidings in a curved configuration which again was less than optimal operationally but made best use of the available area.
38. Rail haulage costs were obtained for traffic flows and comparisons with road operations made.
39. Rail wagon, gauge and pathing issues were all investigated as far as possible, and no show stoppers identified.

Electrification

40. The widening use of electrified rail infrastructure for freight operations can have a positive impact on the cost of rail freight. In developing the wider electrified network and terminals it is important for national rail infrastructure owners to recognise that clear long term policy statements are needed to ensure sufficient notice is given to ports planning new terminals so that the appropriate choice of lifting equipment and layouts can accommodate electrified overheads lines.

41. The operation of rail infrastructure inside ports is also often complicated by the need to use diesel locomotive shunters particularly in areas where reach stackers and overhead gantries and cranes operate. Minimising the use of diesel shunters has the benefit of reducing the additional handling charges and reduces the operational constraints and storage areas needed for the additional locomotives.
42. As a principle the use of the mainline locomotive to place rail wagons in the unloading sidings is the preferred option.
43. In the case of Ridham Docks in the UK the line to Sittingbourne is not electrified and no suitable electric freight locomotives exist in the UK at present. Rail freight operations can therefore not take advantage of the benefits of electrification, but the design process has made sure that the mainline locomotive can carry out all internal shunting manoeuvres if needed or alternatively an on site shunter could be used. This has maintained maximum operational flexibility.

Funding resources

44. The nature of the infrastructure is inevitably large in scale, be it new quay side areas, intermodal rail terminals or new rail connections. Smaller and medium sized ports do not have the financial resources of the larger port groupings and therefore find the scale of infrastructure investments difficult to fund even if the financial business case is a convincing one. EU programme support for SME port investment would be welcome assistance for this key industry sector.
45. The level of expertise required by the smaller and medium sized ports in order to deliver complex infrastructure projects is often very high, with expertise required in rail, sea, construction engineering, planning and finance. This type of expertise and human resource may not always be readily available in every area as the main business of the ports will usually be concentrated on shipping and handling requirements of customers.
46. Smaller and medium sized ports need the security of clear traffic commitments from end customers in order to be able to finance new investments. This needs to cover both the level of annual tonnages and the period of the commitment if private sector funding is to be secured.
47. Kilbride has sourced two new funding partners for rail projects in the UK as part of the Lo Pinod project, one from the private sector and one from the public sector. Both these potential funders will look at future rail projects in the UK and are now to this market sector. The public sector funder for the joint rail line access was Network Rail.
48. Heads of terms were signed with both the private and public sector funder.
49. Both new funders required specific traffic commitments from end customers over a defined number of years, which could then be converted into clear cash flow commitments. The common theme in the commercial terms for the funders were as follows:-

- a. 10 year commitments to recover the capital sums.
- b. Interest rates geared to IRR returns in the order of 15-20% for the private sector and a lower cost of capital in the case of the public sector funder.
- c. Sharing of risk and profits with the private sector developer in the case of the private sector funder.
- d. Equity contributions of at least 20% required from the developer by the private sector funder.

Relationship with other EU programmes

50. Kilbride is also a sub partner in Weastflow and has therefore compared notes and exchanged experiences on Lo Pinod with that project.
51. The LO-PINOD project has been able to learn much from the Dryport project, WP 6, which is helping to transfer up to 30,000 containers from road to rail and has developed a low carbon harbour calculator. The lessons learned in persuading new customers onto rail at the ports is useful background for the LO-PINOD partners in their aim of developing the port hinterland areas through new intermodal facilities.
52. The showcasing of port services through VOKA Chamber of commerce West Flanders has been a good example of best practice for LO-PINOD as well as the benefits of networking by medium sized ports in developing these services.
53. The lessons learned from the Swedish Dryport study into the environmental benefits achieved by the development of a new freight combi terminal were also noted.
54. In taking projects forward in the future LO-PINOD partners will continue the engagement established with the TEN T programme, as well as the opportunities being made available by the next Marco Polo programme.
55. The LO-PINOD partners will set up a formal dialogue with the TEN T programme to ensure that small and medium sized port projects in the North Sea area will be taken note of and recognised in future TEN T projects.
56. Links to other ERDF programmes are an essential tool for small and medium sized ports in the North Sea Area, as a vital potential source of funding for new investments.
57. A clear recommendation is for closer collaboration of medium and smaller ports to build commercial contacts and networks and to provide a voice within the EU on funding mechanisms and the promotion of investment for individual ports.

Commercial agreements

58. Kilbride has developed rail designs for the common infrastructure and individual terminals and has been helping various commercial interests to secure the necessary rail traffic to make the reinstatement of the rail a viable financial proposition.
59. The key events in this process have been:
- a. Kilbride secured an exclusivity agreement with Morrisons supermarket to deliver the rail freight terminal to serve its Sittingbourne Regional Distribution Centre.
 - b. Kilbride secured the support in principle of a private sector investor to fund the development of a rail terminal at Sittingbourne.
 - c. Kilbride secured the support in principle of Network Rail, to fund the common infrastructure costs to reinstate the access rail line for all potential users.
 - d. EON/Wheelabrator secured planning permission for the development of a new rail terminal inside Ridham Docks to handle waste. Commercial negotiations were held to ensure the waste traffic would contribute to the costs of the new common rail infrastructure.
 - e. Kilbride reviewed and designed a scheme to provide a rail terminal in Ridham Docks on the land controlled by Brett Aggregates and negotiated commercial terms for the use of that terminal.
 - f. Kilbride have developed commercial negotiations with the following tenants to seek to secure the necessary rail traffic to make the investment viable:
 - i. Knauf
 - ii. Brett Aggregate
 - iii. Ridham Sea Terminals
 - iv. Morrisons
 - g. The commercial negotiation with each of these potential customers was time consuming and lengthy but has not resulted in a clear traffic commitment to satisfy the funders' needs. Kilbride approached Ridham Docks and its tenants to seek expressions of interest to use the rail line and terminal but this was rejected by Ridham Docks.
 - h. Kilbride also negotiated terms for the purchase of the freehold land of the joint rail access line, which was a condition of the offer for funding by Network Rail.
60. The main reasons for the lack of a clear commitment are as follows:
- a. The end customers could only commit to a short period of traffic insufficient to cover the funding risk.

- b. The rail costs were only matching road costs and so insufficient financial reward existed for the end customers.
- c. There was a clear reluctance amongst some customers to take the risk of transferring to rail from road.
- d. The delays to the project caused by the European Commission's decision to freeze UK claims in the North Sea Programme removed certainty over delivery of the end investment. Delaying funding by 1.5 years through no fault of the project removed confidence amongst end customers and in the lost time personnel changes within the end customer organisations resulted in a change of approach. This was the biggest single factor in customers withdrawing from the project.
- e. Personal commitment from individuals within larger organisations was a key to the whole process.
- f. The funding position of Ridham Docks changed during the project causing delays to the project.

Alternative material investment

- 61. Kilbride Group made a request to the JTS for an alternative material investment when it became apparent that the programmed material investment would not take place. The alternative material investment will be carried out regardless of the Lo Pinod decision on this proposed change in 2015.
- 62. The proposed rail terminal investments at Ridham Docks would have been served by a common privately owned road between the dock area and the main road network. This access road was in a very bad condition, unlit and with a number of unmarked pot holes and other hazards. As the access to the rail terminal as and dock area it was questionable whether the road was adequate if the increased traffic generated by the rail terminal were to take place. As part of a wider investment programme the tenants of the dock and surrounding area therefore formed an agreement to contribute to the cost of improving the common access road. Kilbride proposed that the road improvement be considered as an alternative material investment to the rail terminal, however a decision could not be taken on the principle within the remaining 3 months of the Lo Pinod project by the JTS.
- 63. This has resulted in the road investment decision having to be taken regardless of Lo Pinod support and will therefore not be included in the Lo Pinod eligible costs.
- 64. The Ridham Dock area will however see the proposed level of investment in its infrastructure envisaged in the original application to the North Sea Programme.

Lessons learnt

65. It has been noticeable that in common with a number of other LO-PINOD partners the following points have been noted:-
66. European Commission funding through the Lo Pinod project was withdrawn and created major doubt in the project amongst investors and customers.
67. Private sector funders will only support the funding of new rail infrastructure if there are sufficient commercial agreements in place to guarantee a defined return. No speculative funding is available.
68. The national rail infrastructure company, Network Rail, is best placed to take a longer term view of the potential of the rail market at Sittingbourne and yet still requires some degree of certainty over traffic commitments.
69. The number of commercial interests at Ridham/Sittingbourne make any agreement on the best way to implement rail improvements very difficult.
70. Planning processes for the rail terminal have been assisted by recent UK planning policy changes, but have not removed the need to comply with significant ecological considerations around the port area and third party approvals.
71. The number of organisations from whom permissions are needed is numerous, which delays delivery and increases risk.
72. Limited availability of land within the port area due to quayside and tenant activities has caused significant constraints on options available to the delivery of a new rail terminal.
73. Operational conflicts within the port area make the design of the rail terminal difficult and commercial rights of each individual tenant have brought additional complications.
74. The Sittingbourne/Ridham Docks project still has clear commercial potential despite the problems experienced and the development of the rail project has had a positive impact on the end customers making the eventual delivery of the material investment much more likely.

Transnational experiences

75. The LO-PINOD project has provided a neutral platform for dialogue between port partners. This has provided the partners with an invaluable ability to seek experiences of similar small to medium sized ports, organisations and businesses across the North Sea area. This would not have been

possible outside of the transnational partnership, as ports of similar size in one EU state would be unlikely to share commercially sensitive information with national or international competitors.

76. The transnational collaborations, within the neutral platform of partnership has been valuable in order to develop this port development strategy.
77. It has been possible to compare the roles of national rail operators, planning authorities and port organisations as well as best practice design principles for port developments and funding options.
78. The contribution from port partners will unlock €15m of investment into port capacity and connectivity in the North Sea Region.
79. The validation of the Port Development Strategy, by the LO-PINOD partners will enable other small or medium sized ports in the North Sea Region and beyond learn from experiences
80. The Port Development strategy will enable other small and medium sized ports to learn from the experience of LO-PINOD partners. Kilbride co-ordinated all the responses and comments from the partners on the Port Development Strategy and designed, circulated and reviewed the Questionnaire sent out to all partners as part of the process.
81. Kilbride assisted the Port of Drammen in the final detailed design stages of their new port rail infrastructure, drawing on Kilbride's expertise gained in delivering car rail terminals for Jaguar, Land Rover, BMW, Honda and Ford in the UK.
82. Experiences of public sector funding gained from the Port of Drammen were instrumental in designing the new funding arrangements with Network Rail in the UK.

Conclusion and recommendations

83. The Port Development strategy aims to be a road map for developing ports to successfully integrate multi-modal transport connections and is being circulated widely in the EU.
84. The Sittingbourne project, although it will not be able to claim all the available budget for the design phase and material investment for reasons outlined in this report, will never the less have delivered the required main outputs of:
 - a. Full feasibility work into the design of the joint rail access line including the approval of Network Rail, the consultation process required with Natural England for the ecological studies, design of three potential rail terminals and planning approval for one new terminal in Ridham Docks.
 - b. Delivery of a material investment in the road infrastructure that will open up the Ridham Dock hinterland allowing future use of potential new rail terminals.
 - c. Unlocked private and public sector funding offers for future rail investment.

- d. Helped to influence changes to the national planning policy framework in the UK.
- e. Succeeded in demonstrating how to move forward with the Sittingbourne rail proposals and generated a core cluster of potential rail customers in the area..