

Impact of the IAV for Dublin:

Dublin Institute of Technology and Dublin Port Company

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INTERREG IVB



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DIT in Intrade

Workpackage
WP1: Project & Intellectual Property Management
WP1A1: Overall Project Management
WP1A2: Project Communication Management
WP1A30: Intellectual Property
WP2: Port Virtual Simulator
WP2A3: Virtual Port Environment
WP2A4: Software & Hardware Developments and Implementation
WP3: Supervision of Intelligent Transport System
WP3A5: Modeling & Identification
WP3A6: Intelligent Control & Surveillance
WP3A7: Traffic Management & Space Optimization
WP3A8 : Safety & Interaction System-Environment
WP4: Prototype Conception
WP4A9: InTraDE's System Design
WP4A10: Tests, Validation & Impact studies
WP4A10: Transferability



Dublin Port



Dublin Port



Dublin Port

- ▶ **Located in Dublin city**
- ▶ **Handles passengers and cargo**
- ▶ **Handles €35 billion worth of trade annually**
- ▶ **99.5% of Irish foreign trade comes through ports**
- ▶ **90% of Irelands GDP is exported with 43% passing through Dublin Port**
- ▶ **23.1 million tonnes throughput in first 9 months of 2014**
- ▶ **Increase in throughput of 7.3% from 2013 to 2014 (so far)**
- ▶ **80% of all trade in the port carried in containers**



Dublin Port: Masterplan for 2040

- ▶ **Master Plan – Long Term Development**
- ▶ **Doubling of Trade Volumes**
- ▶ **60 million tonnes by 2040**
- ▶ **New Intelligent Transport Systems**
- ▶ **Challenges include:**
 - Internal Traffic Management
 - Space Optimisation
 - Clean and Safe Environment

Dublin Port: Throughput

	2010 ⁺ '000 tonnes	2040 '000 tonnes	AAGR* '000 tonnes
Ro-Ro	16,403	41,920	3.18%
Lo-Lo	6,317	10,480	1.70%
Bulk Liquid	4,009	4,000	-0.01%
Bulk Solid	2,054	3,500	1.79%
Break Bulk	96	100	0.12%
Total tonnes	28,879	60,000	2.47%

Current Technology



Figure 1. Terminal Tractor



Figure 2. Automated Guided Vehicle (AGV)

Impacts and Expectations of the IAV for Dublin Port

- ▶ **Improvement in the efficiency and performance of the control, surveillance and traffic management of the intelligent road freight transport' system inside Dublin Port.**
- ▶ **Improvement of the operational safety and reduction in the environmental impact of container ports**
- ▶ **Modernise the ports network by investing in intelligent transport systems and making increased use of information technologies**
- ▶ **Operating costs of shunter versus operating costs of the IAV favour the IAV in the long term.**



Impacts and Expectations of the IAV for Dublin Port

Research Findings and Analysis

Net Present Value was based over a 15 year period 2012 – 2027

- ▶ Results of operating costs of shunter
€10,217,786
- ▶ Results of operating costs of IAV
€4,061,667

Impacts and Expectations of the IAV for Dublin Port

Research Findings and Analysis

- ▶ Fuel costs – diesel v electric
- ▶ Wages – Four computer operators v eight drivers
- ▶ Service Costs – diesel v electric

Thank you