

Optimization at container terminals: status, trends and perspectives

EPFL

Infoscience

EPFL scientific publications

Optimization at Container Terminals: Status, Trends and Perspectives

Vacca, Ilaria ; Bierlaire, Michel ; Salani, Matteo

International sea-freight container transportation has grown dramatically over the last years and container terminals represent nowadays a key actor in the global shipping network. Terminal managers have to face with an increasing competitiveness among terminals, which require more and more efficiency in container operations both along the quayside and within the yard: the objective is usually to minimize ships turnaround time, one of the main indicators of the terminal performance for the shipping companies. Moreover the minimization of operational costs directly entails the achievement of competitive terminal fares, thus increasing the attractiveness for new customers. Operations research methods and techniques are therefore worth being used in optimizing terminal operations. In this work, we first give an overview of decision problems which arise in the management of a container terminal (e.g. berth allocation, quay crane scheduling, storage policies and strategies, transfer operations, ship stowage planning). Then, starting from a collaboration with some of the busiest ports in Europe, we have identified some critical issues which will be illustrated: in particular, we focus on the impact that gate operations and transshipment operations have on the yard and we propose a new approach to the yard management which takes into account these interactions. We conclude with suggestions of possible research tracks and open issues.

Swiss Transport Research Conference, Ascona, Switzerland, September 12-

Presented at: 14

Year: 2007

Laboratories: [TRANSP-OR](#)

Record appears in:

[Scientific production and competences](#) > [ENAC - School of Architecture, Civil and Environmental Engineering](#) > [IIC - Civil Engineering Institute](#) > [TRANSP-OR - Transportation and Mobility Laboratory Conference Papers](#) Work produced at EPFL Published



n/a: [PDF](#); [URL](#)



Export as: [BibTeX](#) | [MARC](#) | [MARCXML](#) | [DC](#) | [EndNote](#) | [NLM](#) | [RefWorks](#) | [RIS](#)



View as: [MARC](#) | [MARCXML](#) | [DC](#)



Add to your basket:

[Back to search](#)

Record created 2008-02-15, last modified 2019-03-16

n/a:



External link:



Rate this document:



(Not yet reviewed)

➔ **Add to personal basket**

➔ **Export as** [BibTeX](#), [MARC](#), [MARCXML](#), [DC](#), [EndNote](#), [NLM](#), [RefWorks](#)

