Improving container handling in port operations

Daniil Baldouski^a, Balázs Dávid^{a,b}, György Dósa^c, Tibor Dulai^c, Ágnes Werner-Stark^c, Miklós Krész^{a,b,d}

 a University of Primorska, name.surname@upr.si b InnoRenew CoE, name.surname@innorenew.eu c University of Pannonia, surname.name@mik.uni-pannon.hu d University of Szeged

This paper examines a method aimed at improving the handling of containers in ports. We present a truck scheduling mathematical model designed to operate within the constraints and limitations typical of port environments. The model is structured to handle concurrent tasks and is tested through simulations to evaluate its performance in realistic settings.

Acknowledgements: This work is supported by the Slovenian Research Agency, research program P1-0404.

Balázs Dávid and Miklós Krész gratefully acknowledge the support of the Slovenian Research and Innovation Agency (ARIS) through the grant N1-0223. They have been also supported by the research program CogniCom (0013103) at the University of Primorska.

References

- [1] Yang, Zhongzhen and Chen, Gang and Moodie, Douglas R, Modeling road traffic demand of container consolidation in a Chinese port terminal, Journal of Transportation Engineering, 136, 881–886 (2010)
- [2] Chen, Gang and Govindan, Kannan and Yang, Zhongzhen, Managing truck arrivals with time windows to alleviate gate congestion at container terminals, International Journal of Production Economics, 141, 179–188 (2013)
- [3] Expósito-Izquierdo, Christopher and Lalla-ruiz, Eduardo and De Armas, Jesica and Melián-batista, Belén and Moreno-Vega, J Marcos, Maritime container terminal problems, 1–27. Springer (2017)