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Press Release

Trucks & Team driving Cutting costs and improving transport efficiency with tandem driver teams for trucks

One truck = one driver. Until now, that's been par for the course in logistics. But a recent KLU study shows that companies can reduce costs by instead employing a mix of single drivers and two-person teams in their trucks. This also applies to high-wage countries – and using teams doesn't necessarily mean having to hire more employees.

Effective fleet management with as few deadhead miles as possible has long since been a priority for logistics, both in theory and practice. Yet one aspect of road transport has remained largely overlooked: how can the available drivers be optimally distributed among the vehicles? "Countless carriers fundamentally use only one person per vehicle. As a rule, teams are only used when there are security concerns," says Prof. Asvin Goel.

His recent study, conducted with co-author Prof. Thibaut Vidal (EPM, Montréal) and Dr. Adrianus Leendert Kok (Algorithmic R&D, ORTEC), investigates whether, and if so, under which conditions, using team drivers instead of single drivers would be more efficient for trucks. "Team drivers are especially advantageous on longer routes," Goel explains. They reach their destination faster, since the truck has to make fewer stops to comply with the hours of service regulations.

Optimizing route and driver deployment planning

Many carriers are still reluctant to use team drivers. Some are concerned about higher costs, or about difficulties finding additional drivers in the first place. In addition, they lack suitable tools to quickly and effectively find the best mix in terms of deploying their drivers. "In our study, we developed a new algorithm allowing to simultaneously optimize routes and crewing decisions," Goel claims. "Thanks to the algorithm, companies can identify the most efficient route and driver deployment plan and determine whether single drivers, team drivers, or a mix of the two would be optimal for the planned routes."

Cost-cutting potential

"In nearly all of the scenarios that we simulated, using a mix of single drivers and teams yielded significant cost savings – even on short routes," Goel reports. Since drivers in teams can take turns at the wheel, the transit times (including all breaks and rest periods) are often shorter than those for single drivers. "As a result, the need for personnel, even when relying on team drivers, isn't necessarily higher," says Goel.

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Successful test with real-world data

In the context of the study, the new approach was tested on anonymous data from a customer that was already using ORTEC's planning tools. The data included destinations, distribution centers and the desired delivery times. "Even though the processes had already been optimized for the use of single drivers, in this case we were able to confirm potential cost savings of 0.8 to 3.5 percent on average, achieved by using team drivers for part of the vehicle fleet," he explains. In the course of additional test scenarios, savings of 5.6 to 7.2 percent on average were achieved. "Considering the typically very small profit margins in the transport sector, this savings can translate into a considerable competitive edge."

A model with a real future

"All in all, our study underscores the fact that optimal driver deployment planning offers companies tremendous potential for reducing their costs. Accordingly, it's worthwhile for them to stop categorically ruling out team drivers", says Goel. "Even when extremely high wages were taken into account, in many cases our experiments yielded lower overall costs for team drivers."

Publication:

A. Goel, T. Vidal and A. L. Kok, *To team up or not – Single versus team driving in European road freight transport*, in: *Flexible Services and Manufacturing Journal* (forthcoming). <https://doi.org/10.1007/s10696-020-09398-0>

Images:

- [Downloadable:](#)
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About KLU

Kühne Logistics University – Wissenschaftliche Hochschule für Logistik und Unternehmensführung (KLU) – is a private university located in Hamburg's HafenCity. The independent, state-certified university's major research areas are Sustainability, Digital Transformation and Value Creation in the fields of Transport, Global Logistics, and Supply Chain Management.

KLU is one of very few private universities in Germany entitled to confer their own PhDs. The 2021 ranking of the Wirtschaftswoche identifies KLU as one of the strongest research universities in the field of Business Administration in Germany, Austria and Switzerland. Comparing the research output per professor among all participating universities, KLU ranked 4th in Germany and 8th in the DACH region. In the latest CHE university ranking, KLU obtained the highest marks for all major criteria.

With one BSc and three MSc degree programs, a structured doctoral program, and a part-time Executive MBA, KLU offers its 400 full-time students a high level of specialization and excellent learning conditions. KLU has an international team of 24 professors who teach in English. In open, tailor-made management seminar series, industry specialists and managers alike benefit from the application of academic findings to practical issues.

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