

Inbound and outbound logistics

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Are some of those examples your challenge?

- High contractor costs for truck fleet and mobile equipment.
- Heavy vehicle traffic within the site.
- Traffic jam at the weight bridge.
- ...

Dust issues?



Operation vs. installation costs?



Safety?

Economics of inbound and outbound logistics

- Annual price (vehicles, fuel, manpower and maintenance) for contractor and in-house material volumes handled.
- Other drivers such as environmental compliance, safety, capacity limitations...

Introduction – some thought

- 1 = Operation with vehicle (trucks, front-loader, crane) is more expensive than automated transport system. ✓
- 2 = Replacement of vehicle by automated transport system will reduce costs. ✓
- 1 + 2 = Zero vehicle movement is cheapest. ✗
 - (considering investment, payback and opportunity costs).

Conclusion:

- Zero vehicle movement should not be the target but to find “the optimum mix” between automated transport systems (majority) and vehicles (flexibility and peaks).

Basics: Inbound and outbound logistics

- (Permanent) equipment driven by electrical energy is cheaper in operation costs than mobile equipment (driven by fuel).
- Mobile equipment increases flexibility and can be used for seasonal peak demands.
- The total cost of ownership (TCO) approach will help to justify investment and to calculate pay-pack periods.

Main observations and conclusions

(2)

- The biggest (problematic) contributor for high vehicle costs (from **jetty unloading/loading**) to storage are:
 - **Inbound:**
 - Gypsum and additive transport (from stacker to storage). 26% weightage.
 - Gypsum and additive transport (from river jetty storage). 24% weightage
 - **New transport systems (belt conveyors) required** for:
 - Gypsum and additive transport from stacker to storage (**quick-win**).
 - Gypsum and additive transport from river jetty to storage (**long-term solution**).

What do we offer?

Our competencies to improve in- and outbound logistics

- Identification of automated material handling (and dedusting) solutions to reduce cost and/or to increase flexibility.
- **Technical due diligence on site** with simple & hands-on visual reports with action list generation for follow-up and ease of tracking.

