

1. Before Introduction of Vehicle Guidance System Using BLE

At state-of-the-art large-scale distribution centers where some 5,000 shipping trucks enter and exit each day, a special app that runs on the smartphones of truck drivers, cooperating with server and Bluetooth Low Energy (BLE) device, helps alleviate traffic on local roads and at entry gates and provides berth guidance inside the distribution center. CO₂ emissions are significantly cut as a result.

① Outside



Waiting outside

Congestion time: 5 p.m. to 1 a.m.

No waiting outside

Time: 1 a.m. to 5 p.m.

② Entry gate

Congestion at gates

Gate transit time: 30 s/truck
Number of gates: 3

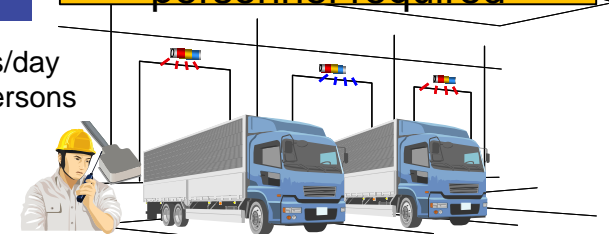


③ Inside

distribution center

Paper use and guidance
personnel required

1 sheet/truck, 5,000 sheets/day
Guidance personnel: 10 persons

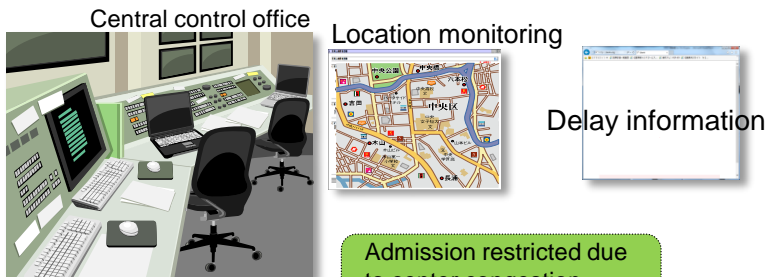


2. After Introduction of Vehicle Guidance System Using BLE

At the entry gates, the time required to pass through is just 10 s/truck, using only BLE authentication and smartphone display. (reduction of 20 s/truck)

① Outside

No waiting outside



Notification via two-way communication app



No waiting outside the distribution center thanks to advance notice

② Entry gate

Mitigation of congestion at gates

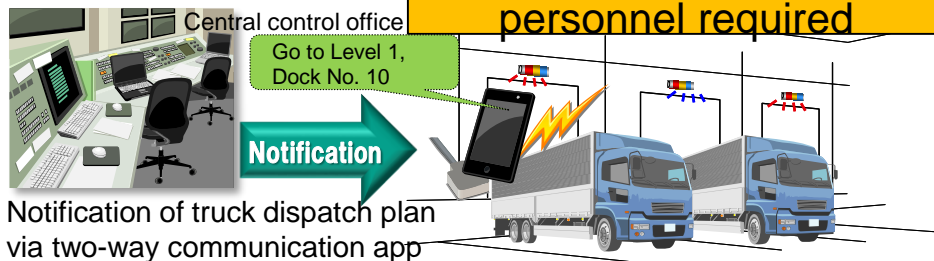
Gate transit time: 10s s/truck
Number of gates: 3



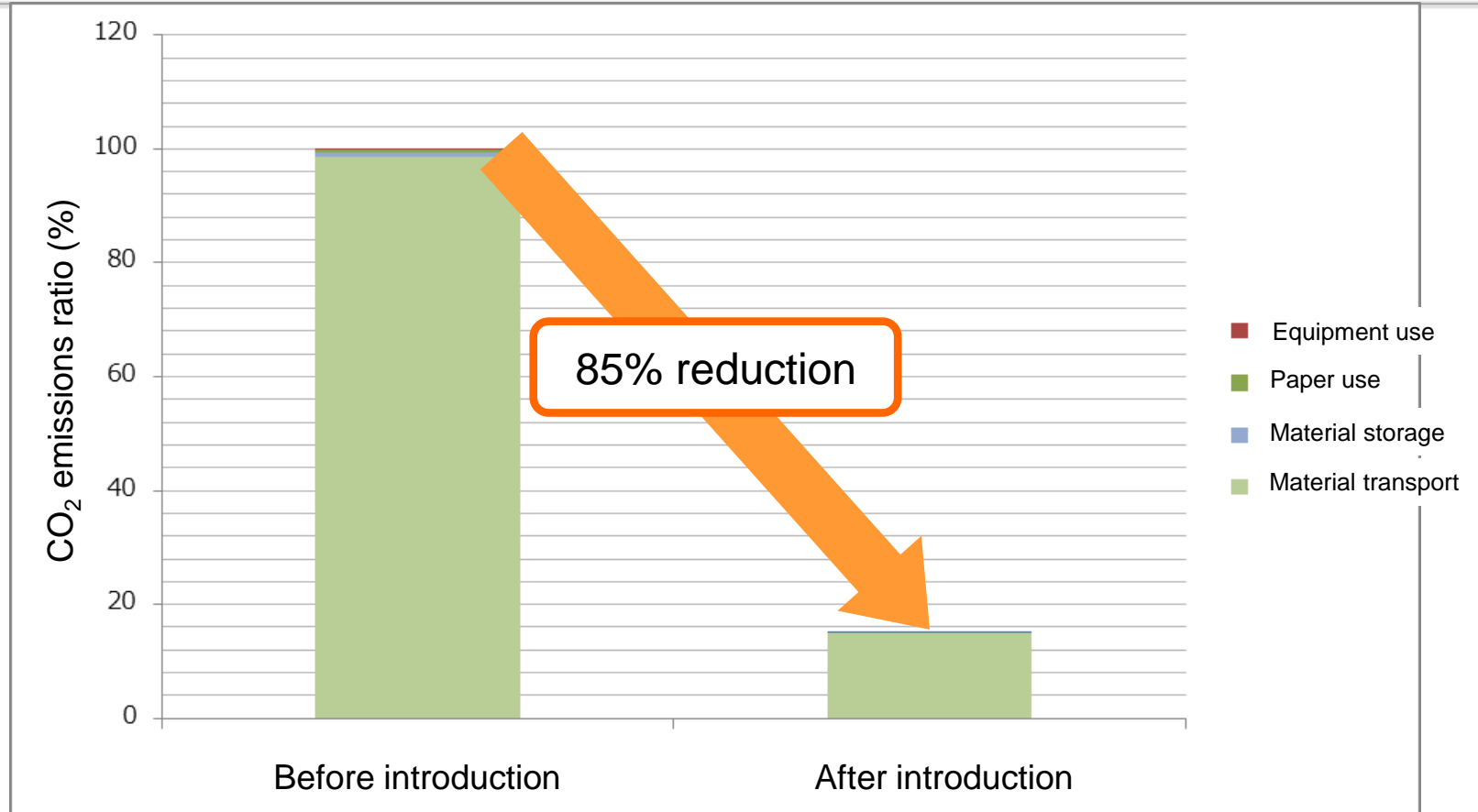
③ Inside

distribution center

No paper nor guidance personnel required



Vehicle Guidance System Using BLE: Load Evaluation Result



| Item | Before introduction | After introduction |
|--------------------|---|--|
| Equipment use | Gates | BLE, server |
| Paper use | Dispatch plan printout | N/A |
| Material storage | Vehicle guidance inside distribution center | Vehicle guidance at central control office |
| Material transport | CO ₂ emissions of trucks due to congestion | No congestion |