



REVENUE STREAM 05

# AI Fuel Efficiency & Route Optimization

Cut the single largest fleet cost, legitimate fuel burn, with machine learning, from the route to the molecule.

**15-20%**

fuel-cost reduction

**90%**

faster rerouting (HERE)

**$R^2 > 0.92$**

KAUST fuel-property AI

## THE OPPORTUNITY

Fuel is the **#1 operating cost** for commercial fleets, 69% of managers name it their biggest expense (Bridgestone). Detours, traffic, idling and aggressive driving burn money; at the chemical level, sub-optimal blends cause knock and soot that degrade thermal efficiency and raise burn rates.

## THE SOLUTION

- **ML route optimisation:** historical + live data (traffic, weather, delivery windows) dynamically computes the most fuel-efficient route and reroutes on the fly.
- **Driver-behaviour telematics:** edge-AI coaches drivers in real time on acceleration, braking and idling.
- **AI fuel design (KAUST):** deep-learning models with a “Mixing Operator” predict RON, MON and Yield Sooting Index to mathematically design high-octane, low-soot blends.

## PROOF IN THE FIELD

### European trucking fleet

15% fuel-cost cut from driver-behaviour sensors and real-time coaching alone.

### HERE Technologies

Up to 20% lower fleet-management cost and 90% faster rerouting.

### Municipal case (Australia)

Optimised routing cut one truck's monthly fuel consumption by 62%.

### KAUST AI fuel design

DL model predicts blend combustion properties at  $R^2 > 0.92$ ; generated 86 viable RON-95 fuel candidates without years of physical testing.

## MEXICO APPLICATION

Mexican logistics firms are already squeezed by elevated security costs and by fuel theft. AI routing and coaching cut their largest baseline expense immediately. In parallel, PEMEX refineries (e.g. Dos Bocas) could **license KAUST's fuel-design AI** to optimise Maya-crude blends, boosting engine efficiency and trimming reliance on imported refined fuel.

## REVENUE MODEL

- Per-vehicle monthly SaaS for the routing platform and driver-coaching dashboard.
- Savings-share option: we take ~20% of verified fuel savings, lowering the barrier to entry.
- Enterprise licensing and joint R&D with PEMEX or private refiners for the fuel-design models.

## PROJECTED ROI

AI routing plus driver coaching delivers a documented **15-20% reduction** in fuel cost. Because fuel is the dominant expense, the absolute savings easily cover per-vehicle SaaS fees, positive ROI within the first few months.