

# Real-time Waste Monitoring

for the elimination of illegal hazardous waste dumping

Real-Time Waste Transportation Monitoring System



## Challenge

The Thai government has set ambitious targets to reduce waste by 50% by 2027 as part of its efforts in building a sustainable society and fostering a circular economy. However, one of the biggest challenges faced by the country is the illegal dumping of hazardous waste. In 2021 alone, approximately 80,000 litres of hazardous waste were disposed of improperly, posing severe threats to human health with effects such as cancer, respiratory illness, and birth defects.

Local government agencies were looking for a waste management solution as a crucial step towards sustainable industrial development while protecting the environment and public health.

\* [OECD Thailand](#)  
\*\* [Pollution Control Department](#)

## Solution

To address these challenges, NEC helped to develop a Real-Time Waste Transportation Monitoring System, which allows the government to track hazardous waste transportation between waste generators and waste processors. Stakeholders can also access a shared platform where they can visualise and share critical information about waste transportation, including vehicle details, waste type, weight, and timestamps. This ensures that waste is transported and treated properly.

The system incorporates NEC's Fleet Management System, which uses GPS and RFID technology for efficient route planning and fuel consumption optimisation. Additionally, NEC's Weigh-in-Motion (WIM) System accurately measures waste weight during transportation, ensuring compliance with regulations.

## Benefits

Reduced waste pollution and soil contamination among manufacturers and factories that were monitored

Lower transportation costs and fuel consumption thanks to route optimisation, lowering the carbon footprint of participating companies

## Towards the future

NEC is leading the transformation of the transportation industry through data utilization that maximizes the growth potential of cities. The Smart Transportation solution has helped ensure the safety of over five million commuters daily. The solution helps reduce traffic congestion and optimize routes, thereby decreasing fuel consumption and greenhouse gas emissions. Not only does this contribute to a greener future, but also enhances the overall quality of life for communities in the region.

### More info

<https://www.nec.com/en/global/solutions/transportation/index.html>



## A drive towards greater sustainability

**01 Cleaner, safer natural environment**  
The solution helped reduce waste pollution and soil contamination, helping to keep the natural environment clean and safe.

**02 Lower carbon footprint**  
The route optimisation function helped to lower transportation costs and fuel consumption.