Road Traffic Safety Measures Using AI Image Analysis Technology

Opatření pro bezpečnost silničního provozu s využitím AI technologie analýzy obrazu

· Oriental Consultants and Oriental Consultants Global utilize AI image analysis technology to conduct analysis of traffic accidents.

· This technology goes beyound visual observations by analyzing the traffic behavior of vehicles, bicycles and pedistrians from video images. quantitatively analyzes dangerous events and factors that causative that lead to accidents, and enables the formulation of evidence-based traffic safety measures.

● AI image analysis can be used to determine accident contributing factors and to formulate highly effective countermeasures.

· Conventional methods of analyzing dangerous events rely on visual observation, which is time-consuming and is susceptible to inaccuracies due to the subjective judgement of the observer.

· The application of AI analysis technology allows for quantitative analysis of factors contributing to accidents, facilitating a comprehensive understanding of complex accident mechanisms that were previously challenging to grasp thus leading to formulation of more effective countermeasures.

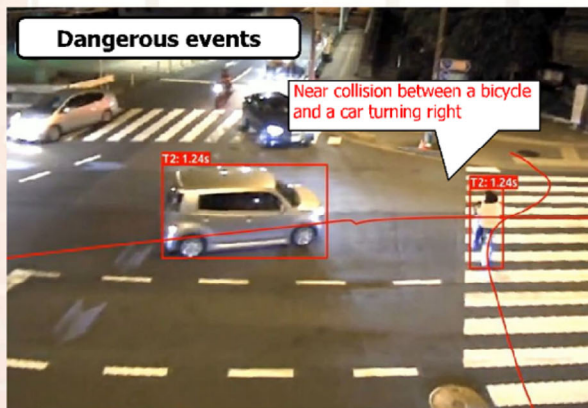> **Quantitative analysis of accident factors using AI technology**
> ·Dangerous events (e.g., near collision between bicycle and car turning right)
> ·Traffic volume by vehicle type
> ·Frequency of lane changes or merges
> ·Travel path
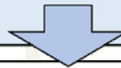
Identify factors that lead to accidents and formulate effective countermeasures

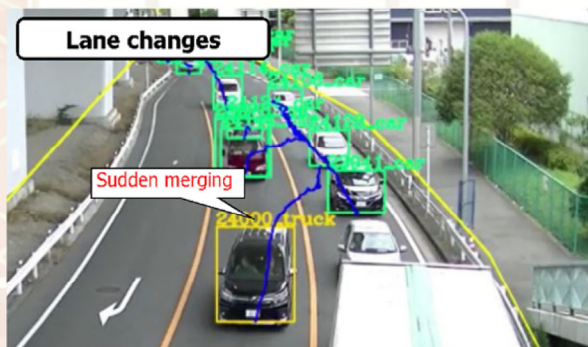## ● AI image analysis contributes to the increased efficiency and accuracy of analysis.

· AI analysis allows for the rapid analysis of dangerous events, lane changes, travel paths, and vehicle counts by type, all of which can be verified through video footage.

Dangerous events — Near collision between a bicycle and a car turning right

Extracted example of hazardous event (Tokyo, Japan)

Traffic volume — Measuring traffic volume by vehicle type and monitoring traffic conditions
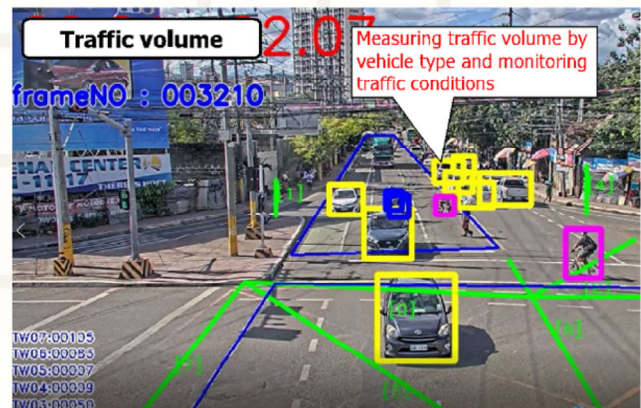
AI-based measurements by vehicle (three-wheeled vehicles, motorcycles) (Philippines, SmartJAMP project under MLIT)

Lane changes — Sudden merging

Example of measuring number of lane changes (Kanagawa Prefecture, Japan)

Traffic volume & travel paths — Measuring traffic by direction at roundabouts and determining driving positions

Example of travel path measurement (Phuket, Thailand)

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