

## Special Feature 2

## Co-creation 2

## A Traffic-Monitoring System That Uses AI-Driven Image-Recognition Technologies

Cutting CO<sub>2</sub> emissions by enabling accurate detection of congestion and accidents

Traffic congestion is becoming an increasingly serious social problem in many countries, especially emerging nations. Not only do crowded streets hamper economic development, but congestion also endangers the environment. To help mitigate these traffic issues, Fujitsu developed a traffic-monitoring system that uses AI-driven image-recognition technologies to accurately detect road congestion and accidents in real time.

Co-creation  
for Sustainable Development





Top Message	Message from the Head of Corporate Environmental and CSR Strategy Unit	Special Feature 1: The Fujitsu Group Medium/Long-term Environmental Vision	<b>Special Feature 2: Digital Co-creation</b>	Fujitsu Group Environmental Action Plan Stage VIII	Chapter I Contribution to Society	Chapter II Our Business	Environmental Management	Data Overview
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## Co-creation 2 A Traffic-Monitoring System That Uses AI-Driven Image-Recognition Technologies

## Special Feature 2

### Cutting CO<sub>2</sub> emissions by enabling accurate detection of congestion and accidents

In emerging nations, burgeoning populations and fast-moving urbanization are creating the social issue of traffic congestion. Congestion does more than simply impede economic growth; it also hurts the natural environment by contributing to air pollution, and climate change. To help mitigate these traffic issues, Fujitsu developed a traffic-monitoring system that uses image-recognition technologies—which draw on Zinrai, Fujitsu's unique AI technology—to accurately detect road congestion and accidents in real time.

The issue with conventional image-recognition technologies was that they were affected by the environmental, including headlights, sunlight, and shadows,

which made it hard to analyze video from monitoring cameras. It was also difficult to efficiently and accurately recognize such varied and complex incidents as traffic accidents and violations.

Fujitsu's technology boosts recognition accuracy through AI technology, which learns a large, pre-assembled library of images. Leveraging that asset, Fujitsu's new technology can identify vehicle positions—even at night or under foggy conditions. The technology also observes changes in vehicle movement and speed. The technology quantifies the corresponding anomaly to make the process of detecting accidents and violations more efficient. In 2015, Fujitsu conducted collaborative field trials with the Tsinghua University

Suzhou Automobile Research Institute to test the technology in China. The joint effort achieved high levels of recognition accuracy at 90% to 95%.

With the new technology, users can gather congestion-related information that not only provides insight into the strategies for placing and controlling traffic lights but also helps identify ways of curbing the accidents and violations, leading to improvements in many areas, including safer urban transportation and fewer CO<sub>2</sub> emissions. Organizations in Japan, China, and Europe are planning to implement the system and start using the service, which Fujitsu will launch services for in FY 2017.

#### Detecting a wide variety of conditions in real time



The system can detect congestion, accidents, and many other abnormalities at high accuracy levels.

#### Enabling efficient, centralized management of conditions and incidents on a large geographical scale



By giving users the ability to assess the scope and effects of various incidents, the system helps facilitate environmental measures, improve traffic safety, and alleviate road congestion.