

Osaka Gas to Start Gas Pipe Patrols on a Trial Basis Using “an In-vehicle Camera Capable of AI-based Automatic Recognition of Construction Sites”

— To monitor the status of construction work of other business operators on roads where gas pipes are buried —

May 31, 2021  
Osaka Gas Co., Ltd.

On June 1, 2021, Osaka Gas Co., Ltd. (President: Masataka Fujiwara, hereinafter “Osaka Gas”) will start gas pipe patrols on a trial basis using “an in-vehicle camera capable of AI-based automatic recognition of construction sites” (hereinafter referred to as “the AI camera”) installed in fixed-route buses operated by Osaka City Bus Corporation (hereinafter, “Osaka City Bus”).

When business operators other than Osaka Gas, including waterworks, sewerage, electricity, and communication companies, perform excavation work near gas pipes buried under roads (hereinafter, “other construction work”), Osaka Gas requests them to hold consultations in advance to avoid damage to gas pipes in proximity during the excavation work. In some cases, such construction work is performed without notification to Osaka Gas. For this reason, Osaka Gas conducts patrols on roads where gas pipes, whose damage is likely to have a significant impact, are buried and identifies other construction work that is performed without notification in order to prevent damage to gas pipes.

At present, patrol cars are used to check the designated route every day taking a whole day on roads where medium-pressure gas pipes (supply pressure: 0.1 MPa to 1.0 MPa) are buried. However, construction work outside the direct observation cannot be identified.

The conventional patrols were conducted by inspection staff in patrol cars. The newly developed AI camera will be installed in fixed-route buses to improve business productivity. Fixed-route buses drive on the same route multiple times a day. Thus, the patrol frequency of the new method is higher than that of the current method. This is expected to improve safety quality, such as reduction in the risks of damage to gas pipes.

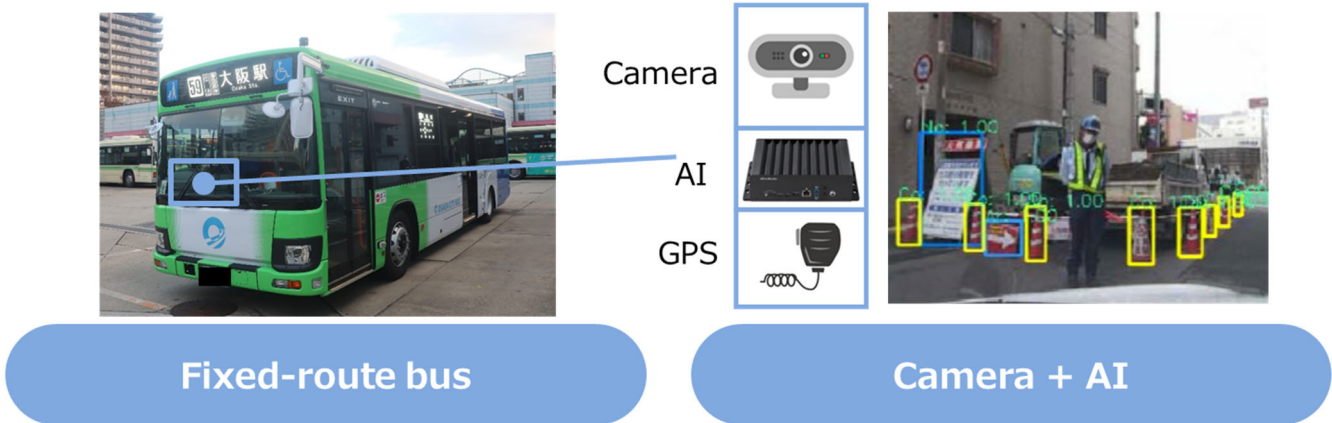
Osaka City Bus can use the images captured by the AI camera for safe operation of its buses. Thus, the collaboration between the two companies will contribute to ensuring social safety.

To create “future value” that contributes to solving social issues in cooperation with various stakeholders, the Daigas Group also works on promotion of DX, such as introduction of AI technology, to evolve into “an innovative energy and service company that continues to be the first choice of customers into the future” and to contribute to realizing a sustainable society.

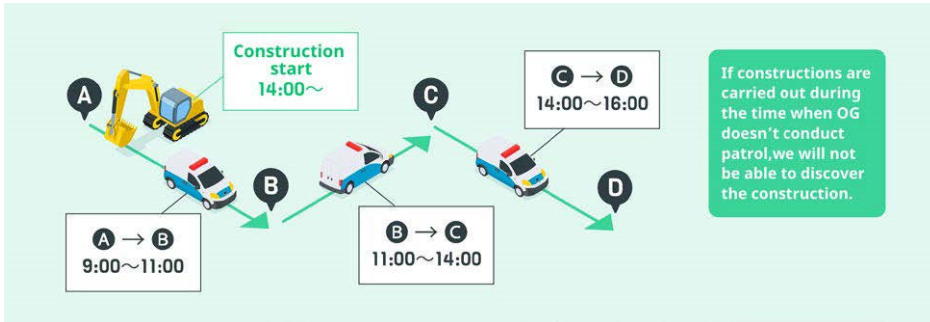
### 1. Gas pipe patrols using the AI camera

The AI extracts images that are highly likely to be those of construction work from images captured by the AI camera installed in fixed-route buses during driving. At the Osaka Gas office, an operator who checks images determines whether construction work is underway without notification.

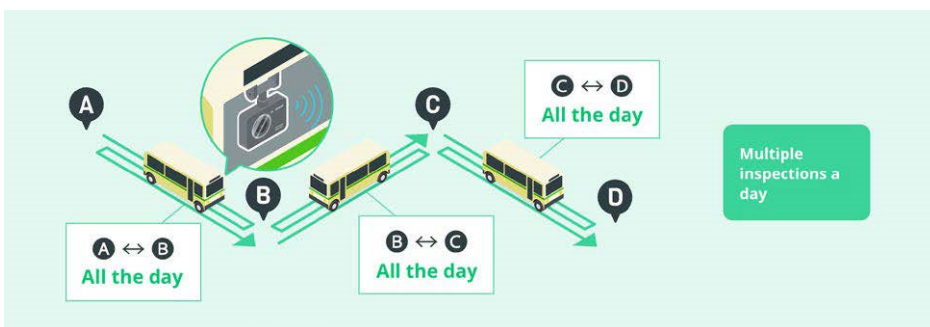
(AI camera installed in a fixed-route bus [image])



(Patrols before introduction of the AI camera)



(Operation after introduction of the AI camera [image])



### 2. Development of the AI camera through open innovation

Osaka Gas has been promoting open innovation since 2009. It has actively disseminated information about its internal needs and has matched such needs with technologies proposed by partners. The development of the AI camera has been made possible through cooperation with a startup (aptpod, Inc.) with which Osaka Gas came across at an open innovation matching event.

### 3. Future deployment

Osaka Gas will start patrols using the AI-camera on a full scale this autumn or later based on the results of the

patrols on a trial basis from June 2021. Osaka Gas will also hold consultations with other fixed-route bus operators to expand such patrols within its service area.

#### **4. Handling of captured images**

Osaka Gas will use the images in front of the buses captured by the AI camera to monitor the construction sites on the roads. Osaka City Bus will use such images for safe operation of buses. The captured images will not be used for identifying individuals on the roads. To prevent unauthorized use and external leakage of such images, Osaka City Bus will ensure strict management and promptly erase such images after a certain period. It will not offer such images to third parties unless required by the provisions of relevant laws and regulations.