

The Necessity of Installing Audio and Video Recording Devices in Train Driver Cabs and The Challenges in Promoting Their Implementation.

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# **Outline**

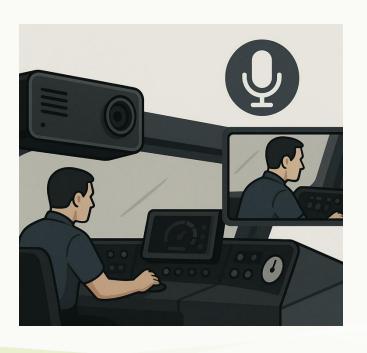


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- > Current status of domestic operators
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### Introduction



**◆** What's the purpose of an in-cab audio and video recording devices?



- Analyze driver's behavior and decisions.
- Reveal distraction, fatigue, stress and procedural error.
- Identify human factors.
- Learn from mistakes.
- Prevent recurrence of similar accidents.

### Introduction



- ◆ In what cases do we recommend that the authorities install audio and video recorders in the driving cab?
- Date : Oct. 21, 2018
- Cause: The train driver misunderstood the information from TCMS and isolated the Automatic Train Protection System (ATP), resulting in the train overspeeding and overturning at a sharp curve.
- Casualties: 18 fatalities and more than 200 injuries.
- Finding: The driver's verbal statements during those critical moments... did not actually match with the operations recorder by the TCMS.



### **International Practices**



Country	Legal / Policy Basis	<b>Applicable Rolling Stock</b>	Effective Date
*	Railway Safety Act + LVVR Regulations (SOR/2020-178)	Locomotives (passenger and freight)	Sep 2, 2022
	FAST Act + FRA Final Rule (49 CFR Part 229.136)	Lead locomotives on intercity & commuter trains	Oct 12, 2027

Ref: https://laws-lois.justice.gc.ca/eng/regulations/SOR-2020-178/FullText.html

https://www.ecfr.gov/current/title-49/subtitle-B/chapter-II/part-229/subpart-C/subject-group-ECFR4aa004644ff4be4/section-229.136

International Criteria for Train Video and Audio Devices, Engineering technical research report TTSB-EDR-25-08-001, Division of Research and Engineering, TTSB, August 2025"

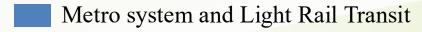
### **Current status of domestic operators**



Operator	Outward-recording devices	Inward-recording devices	Remark
THSR CORP.	YES	NO	No plan to install Currently.
TR CORP.	YES	Partial	Only E500 & R200 train types have been equipped, but not yet been activated.
MRT / LRT	YES	Partial	A few haven't yet, due to vehicle warranty.
Alishan Forest Railway	YES	YES	Except for steam locomotive
Taiwan Sugar CORP.	YES	YES	-



Conventional Rail



Industrial Rail

## Benefits and drawbacks for different stakeholders Taiwan



Stakeholder	Benefits	Drawbacks
Train Drivers & Unions	<ul> <li>Clarify responsibilities and defend against unfair investigations.</li> </ul>	<ul> <li>Invade personal privacy.</li> <li>Continuous monitoring causes stress.</li> <li>Risk of footage misuse.</li> </ul>
Railway Operators	<ul> <li>Support event analysis and improve risk management.</li> </ul>	• Require investment in equipment and may reduce employee's trust.
Regulatory Authorities	<ul> <li>Enhance oversight and support policy making.</li> </ul>	<ul> <li>Raise privacy and labor rights concerns.</li> <li>Require strict data governance.</li> </ul>
Investigation Agencies	<ul> <li>Identify potential human factors, and improve investigation efficiency.</li> </ul>	<ul> <li>Depend on IT staff and systems.</li> <li>Hard to balance transparency and privacy.</li> </ul>

# Challenges in implementing of these devices



#### **♦** Current Situation:

- The biggest challenges come from labor unions.
- Invade privacy and limited benefits for accident prevention.
- The policy is still under negotiation.

#### **♦** Key Concern:

- A driver's actions on duty are directly linked to public safety.
- Public safety always must come first.
- For identifying human factors, not surveillance.

#### **♦** Suggestions the regulatory authorities:

- Maintain open communication.
- Built transparency policies.
- Foster mutual trust and respect with all operators.

#### **Unions Object**



Communication and Negotiation









Transparency of Policies



# Thank You For Your Attention



國家運輸安全調查委員會 Taiwan Transportation Safety Board