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|  | INTERNATIONAL TELECOMMUNICATION UNION  **TELECOMMUNICATION STANDARDIZATION SECTOR**  STUDY PERIOD 2022-2024 | | | | | SG12-LS31 |
| **STUDY GROUP 12** |
| **Original: English** |
| **Question(s):** | | | 19/12 | | | Geneva, 18-26 January 2023 |
| **Ref.: SG12-TD311** | | | | | | |
| **Source:** | | | ITU-T Study Group 12 | | | |
| **Title:** | | | LS about new work item P.obj-recognition: Object-recognition-rate-estimation model in surveillance video of autonomous driving | | | |
| **LIAISON STATEMENT** | | | | | | |
| **For action to:** | | | | - | | |
| **For information to:** | | | | SG16, VQEG, 5GAA | | |
| **Approval:** | | | | ITU-T SG12 meeting (Geneva, 26 January 2023) | | |
| **Deadline:** | | | | - | | |
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| **Abstract:** | This LS contains information about the recently agreed new work item (P.obj-recognition: Object-recognition-rate-estimation model in surveillance video of autonomous driving). |

Question 19 of ITU-T Study Group 12 would like to inform you that a new work item P.obj-recognition “Object-recognition-rate-estimation model in surveillance video of autonomous driving” was launched by the recent ITU-T Study Group 12 meeting, Geneva, 18-26 January 2023.

The scope can be found in A.1 justification that is attached to this document.

Looking forward to a fruitful collaboration with SG16, VQEG, and 5GAA.

A.1 justification for proposed draft new ITU-T P.obj-recog   
"Object-recognition-rate-estimation model in surveillance video of autonomous driving"

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| **Question:** | Q19/12 | **Proposed new ITU-T Recommendation** | Geneva, 18-26 January 2023 | | |
| **Reference and title:** | ITU-T P.obj-recog " Object-recognition-rate-estimation model in surveillance video of autonomous driving " | | | | |
| **Base text:** | N/A | | | **Timing:** | 2024 |
| **Editor(s):** | Masanori Koike, NTT, [masanori.koike.wx@hco.ntt.co.jp](mailto:masanori.koike.wx@hco.ntt.co.jp)  Kazuhisa Yamagishi, NTT, [kazuhisa.yamagishi.vf@hco.ntt.co.jp](mailto:kazuhisa.yamagishi.vf@hco.ntt.co.jp)  Noritsugu Egi, NTT, [noritsugu.egi.bn@hco.ntt.co.jp](mailto:noritsugu.egi.bn@hco.ntt.co.jp) | | | **Approval process:** | AAP |
| **Scope** (defines the intent or object of the Recommendation and the aspects covered, thereby indicating the limits of its applicability): | | | | | |
| This work item aims to develop a new object-recognition-rate-estimation model for surveillance video of autonomous driving. The object-recognition rate is calculated by metadata (e.g., bitrate, packet loss, etc.) in addition to a-priori information (e.g., color, size, and background of objects). | | | | | |
| **Summary** (provides a brief overview of the purpose and contents of the Recommendation, thus permitting readers to judge its usefulness for their work): | | | | | |
| To ensure the safety of autonomous driving, objects that interfere with driving need to be automatically recognized. To do that, an object-recognition system is needed to support autonomous driving, such as autonomous braking and passing. In general, the object recognition is performed automatically in autonomous driving systems using cameras mounted on an autonomous car. Under certain conditions such as on a highway, autonomous driving systems work well without any human support. On the other hand, current autonomous driving systems are difficult to use on local streets because there are various objects or people such as traffic signs or pedestrians. To use the current autonomous driving systems on local streets, a remote monitoring system has also been studied in which an observer can recognize objects and brake remotely.  In the remote monitoring system, surveillance video is encoded and transmitted via radio access networks. Therefore, the encoding video bitrate is varied, and the packet loss occurs due to fluctuations in the network bandwidth. These factors affect the object-recognition rate. Characteristics of objects and other factors in surveillance video (e.g., color, size, and background of objects) also affect the object-recognition rate. Therefore, a new technique needs to be established to estimate the object-recognition rate of surveillance video.  In this work item, an object-recognition-rate-estimation model will be developed for the surveillance video of autonomous driving. To determine object-recognition rate, the subjective assessment methods for recognition task described in Recommendation P.912 can be applied. | | | | | |
| **Relations to ITU-T Recommendations or to other standards** (approved or under development)**:** | | | | | |
| P.912 (Subjective video quality assessment methods for recognition tasks) | | | | | |
| **Liaisons with other study groups or with other standards bodies:** | | | | | |
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| **Supporting members that are committing to contributing actively to the work item:** | | | | | |
| Nippon Telegraph and Telephone Corporation (NTT), ERICSSON | | | | | |

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