**3GPP TSG-SA5 Meeting #156 *S5-244637d1***

Maastricht, NL, 19 - 23 August 2024

**Source: Intel, NEC**

**Title: pCR 28.858 Update UC and requirements for pre-training**

**Document for: Approval**

**Agenda Item: 6.19.1**

# 1 Decision/action requested

***The group is asked to discuss and approve.***

# 2 References

[1] 3GPP Draft TR 28.858-010: Study on Artificial Intelligence / Machine Learning (AI/ML) management phase 2.

# 3 Rationale

The UC and potential requirements for pre-training are defined in clause 5.1.2 of draft TR 28.858 [1]. However, the term “pre-training” can be misleading because as it suggests a stage that occurs before any ML training.

# 4 Detailed proposal

It proposes to make the following changes to TR 28.858 [1].

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| **1st modified section** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[x] 3GPP TR 28.105: "Management and orchestration; Artificial Intelligence/ Machine Learning (AI/ML) management".

[y] 3GPP TS 28.104: "Management and orchestration; Management Data Analytics".

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| **Next modified section** |

### 5.1.2 Pre-training

#### 5.1.2.1 Description

A pre-training is an ML model training for training an ML model with domain related dataset that covers more than one inference type. For example, an ML model could be pre-trained with the dataset from SLS analysis capability group covering inference types including ServiceExperienceAnalysis, NetworkSliceThroughputAnalysis, NetworkSliceTrafficAnalysis, NetworkSliceLoadAnalysis and E2ElatencyAnalysis [see TS 28.104 [y]].

The pre-training is not intended to support a specific inference type but rather focuses on commonality among number of use cases.

The ML model training process defined in TS 28.105 [x] covers pre-training.

#### 5.1.2.2 Use cases

##### 5.1.2.2.1 consumer requested ML pre-training

The pre-training type follows the common procedure of ML model training, however the information in training request is different.

#### 5.1.2.3 Potential requirements

**REQ-ML\_ TRAIN -****MLPT-1:** The ML training MnS producer shall have a capability to enable an authorized consumer to request a pre-training of an ML model.

Editor note: It is for further discussion if the same requirements in existing TS 28.105 [x] Table 6.2b.3related to training function also applies for pre-training.

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| **End of modified sections** |