**3GPP TSG-SA WG6 Meeting #68S6-253655**

**Gothenburg, Sweden 25th – 29th August 2025 (revision of S6-253068)**

**Source: China Telecom**

**Title: Key Issue on** **AIML model storage and deployment on satellite**

**Spec: 3GPP TR 23.700-02 V0.0.0**

**Agenda item: 9.12**

**Document for: Approval**

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**1. Introduction**

To meet the requirements in SA1 TS 22.261: Efficient content delivery —— A 5G system with satellite access shall be able to optimise the delivery of content from a content caching application by taking advantage of satellites in supporting ubiquitous service, as well as broadcasting/multicasting on very large to global coverages. It is worth studying the scenario of deploying AIML models on satellites and such a scenario may require enhancements in existing application enablers.

**2. Reason for Change**

Enhancements in satellite access based AIML service, considering a senario that AIML model storaged and deployed on satellite.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

It is proposed to agree the following changes to 3GPP TR 23.700-02 V0.0.0.

\* \* \* First Change \* \* \* \*

# 4.X Key Issue #X: AIML model storage and deployed on satellite

## 4.x.1 Description

In 3GPP's TS 23.482, SA6 defines the architecture of AIML enabling services and related AIML business processes. Existing AIML-enabled services provide different users or third-party entities with services for searching, storing, and calling AIML models by providing a platform. Based on the SA6 process, users can call servers in edge networks or cloud networks, retrieve the required models, and request the server to perform corresponding AIML tasks, such as perception, recognition, reasoning, and federated learning. Although TS 23.700-82 has proposed a variety of ground network use cases for AIML APP, it is worth studying whether the scenario of deploying AIML models on satellites requires enhancements to existing application enablers.

Furthermore, if remote sensing data is collected via satellite and transmitted to AI models on ground networks, the data capacity and speed of transmission will be limited by the satellite's limited bandwidth. Therefore, it is possible to consider deploying AIML models directly on satellites, performing data processing, compression, and inference locally. Ultimately, the compressed remote sensing data and inference results are transmitted to users on the ground via feeder links, thereby reducing data transmission burden and latency.

## 4.x.2 Open Issues

This key issue will study:

1. Investigate different deployment options for AIMLAPP when AIML models are deployed on satellite and study whether/how to deploy AIMLE on satelllite (e.g. ML repository/ADAES on satellite to perform data processing/interference based on collected remote data).

2. Whether/how to storage AIML models for AIMLE (e.g. Light weight models storaged on remote sensing satellite to process collected remote data, Model transmission and sharing between satellites and terrestrial network).

\* \* \* End of Changes \* \* \* \*