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Uncrewed aircraft systems — UAS traffic management (UTM) — Study on functional and performance requirements for UTM systems

Systèmes d'aéronefs télé-pilotés — Gestion du trafic UAS (UTM) — Étude des exigences fonctionnelles et de performance des systèmes UTM

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Foreword

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This document was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 16, *Uncrewed aircraft system*.

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Introduction

The implementation and operation of uncrewed aircraft system (UAS) traffic management (UTM) systems are progressing in many countries with the rapid development and penetration of UAS technology and usage. The International Civil Aviation Organization (ICAO) has published the fourth edition of its UTM guidance[11], which describes the principal guidelines and services for UTM implementation in each country, as well as gaps and issues related to UTM implementation.

ISO/TC 20/SC 16 has also been working on the definition of UTM based on UAS operations as defined in ISO 21384-3:2023[1]. It has developed standards such as ISO 23629-5:2023[2], ISO 23629-12:2022[4] and ISO 23629-9:2023[5], and other standards have been developed to clarify the composition of services and functions of the overall UTM system configuration.

The purpose of this document is to survey the current implementation status and requirements of UTM in different countries, classify possible services and functions not defined in existing standards, and identify the quality, safety and security requirements for each service or function.

Based on the different implementations of these UTMs in different countries and by different private UTM providers, this document identifies the classification of the services, stakeholders involved, functions encompassed and data handled, and examines the quality, safety and security requirements for these data to determine how much quality, safety and security each service requires, and security requirements for each service.