

# ISO/TS 6434:2024-01 (E)

## Space systems - Design, testing and operation of a large constellation of spacecraft

<b>Contents</b>		Page
<b>Foreword</b> .....		<b>iv</b>
<b>Introduction</b> .....		<b>v</b>
<b>1 Scope</b> .....		<b>1</b>
<b>2 Normative reference</b> .....		<b>1</b>
<b>3 Terms and definitions</b> .....		<b>1</b>
<b>4 Abbreviated terms</b> .....		<b>2</b>
<b>5 Requirements</b> .....		<b>2</b>
5.1 Mission design.....		<b>2</b>
5.1.1 Orbit selection of constellation and maintenance to minimise collision risk.....		<b>2</b>
5.1.2 Intra-constellation collision avoidance.....		<b>2</b>
5.1.3 Space debris mitigation.....		<b>3</b>
5.1.4 Selection of launch service providers.....		<b>3</b>
5.1.5 Assessment on the long-term evolution of debris environment.....		<b>3</b>
5.2 Spacecraft design.....		<b>3</b>
5.2.1 Reliability design.....		<b>3</b>
5.2.2 Design to support collision avoidance.....		<b>5</b>
5.2.3 Space debris mitigation design.....		<b>5</b>
5.2.4 Design to support successful disposal.....		<b>5</b>
5.2.5 Safe re-entry.....		<b>5</b>
5.2.6 Large constellation radio frequency interference mitigation.....		<b>5</b>
5.2.7 Large constellation minimization of disruptive visual brightness.....		<b>6</b>
5.3 Qualification and testing.....		<b>6</b>
5.3.1 Verification and validation based upon established standards and procedures.....		<b>6</b>
5.3.2 Test and checkout before to injecting into the planned orbit.....		<b>6</b>
5.4 Operations and collision avoidance.....		<b>6</b>
5.4.1 Quality and reliability control during operation.....		<b>6</b>
5.4.2 Conjunction assessment and collision avoidance.....		<b>7</b>
5.4.3 Large constellation Radio frequency interference mitigating operation.....		<b>8</b>
5.4.4 Large constellation operation to minimise disruptive visual brightness.....		<b>8</b>
5.5 Disposal of spacecraft.....		<b>8</b>
5.5.1 Post-mission disposal.....		<b>8</b>
5.5.2 Criteria for initiating disposal.....		<b>8</b>
5.5.3 Determination of mission extension or termination.....		<b>8</b>
5.5.4 Disposal upon decommissioning.....		<b>8</b>
5.5.5 Spacecraft passivation.....		<b>9</b>
5.5.6 Active debris removal in operations.....		<b>9</b>
<b>Bibliography</b> .....		<b>10</b>