Annex-15
LITD/30/24866
(Identical To: ISO/IEC 5338:2023)

S No.	Basic Details	Clause/Subclause No.& Attachment	Paragraph No./Figure No./Table No	Type of Comment	Comments/Suggestions along with Justification for the Proposed Change	Proposed Change/Modified Wordings	Memebr Secretary Observations
1	Name: ChandraSR K Organisation: N/A	Introduction N/A		General	To build and maintain an AI system, it is an efficient approach to extend the life cycle processes for a traditional software system to include AI-specific life cycle characteristics. To be changed to To build and maintain an AI system, there is need to extend the life cycle processes defined for traditional software system to include AI-specific life cycle characteristics. Introduction section content to be revised to present in better and simple way to improve the readability.	To build and maintain an AI system, there is need to extend the life cycle processes defined for traditional software system to include AI-specific life cycle characteristics.	Change to replace 'To build and maintain an AI system, it is an efficient approach to extend the life cycle processes for a traditional software system to include AI-specific life cycle characteristics' w**ith** 'To build and maintain an AI system, there is need to extend the life cycle processes defined for traditional software system to include AI-specific life cycle characteristics' may be agreed however for this need for it should be established whic has not been done in the present content.
2	Name: ChandraSR K Organisation: N/A	Introduction N/A		Technical	ISO/IEC 5338 standard is not standalone and independent standard for AI Systems, ISO/IEC 5338 standard to be used along with ISO/IEC/IEEE 15228, ISO/IEC/IEEE 12207 and other relavant Management System Standards. Pictorial representation is required to reflect this on how the ISO/IEC 5338 standard is related to other standard, to improve the understandable of the standard.	Pictorial represenation as per the comment required	ISO/IEC 5338 is based on ISO/IEC/IEEE 15228 and ISO/IEC/IEEE 12207 however it would be not right to say 'ISO/IEC 5338 standard is not standalone and independent standard for AI Systems'. No change is required at this stage. Proposed picture may be provided to consider further.

3	Name: ChandraSR K Organisation: N/A	1 N/A		General	Scope section content to be revised to present in better and simple way to improve the readability. It is based on ISO/IEC/IEEE 15288 and 1 Scope ISO/IEC/IEEE 12207 with modifications and additions of AI-specific processes from ISO/IEC 22989 and ISO/IEC 23053. change to It is based on ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 with modifications to exsiitng process activities/tasks to accomodate AI system needs and additions of new AI-specific processes	It is based on ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 with modifications to exsiitng process activities/tasks to accomodate AI system needs and additions of new AI-specific processes	**Existing scope is ok. No change is required.**
4	Name: ChandraSR K Organisation: N/A	5.1 N/A		Technic al	5.1 General Figure 1 — AI system life cycle processes relative to ISO/IEC/IEEE 15288:2023, modify as follows to improve the readability: a) Figure 4 : Retailn the Figure 4 in ISO/IEC/IEEE 15288:2023, as it is with same text. b) Use different color for text or box filling to represent Generic, Modified, New processes c) add notation at the bottom of the picture, to present this color indication	Figure 1 — AI system life cycle processes relative to ISO/IEC/IEEE 15288:2023, modify as follows to improve the readability: a) Figure 4 : Retailn the Figure 4 in ISO/IEC/IEEE 15288:2023, as it is with same text. b) Use different color for text or box filling to represent Generic, Modified, New processes c) add notation at the bottom of the picture, to present this color indication	Existing figure is ok at this stage. This may be considered in next version of standard.

5	Name: ChandraSR K Organisation: N/A	5.1 N/A		Technical	5.1 General Modified processes: Processes where elements are modified, added or removed from the ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 12207 definition. NOTE 1 The Clause for each of these "Modified processes" contains a subclause of AI-specific particularities that provide guidance to adapt the process to AI systems. it is advisable to add folowing either in introduction or definitions to improve the readbility of the document: elements, system elements, AI system elements	it is advisable to add folowing either in introduction or definitions to improve the readbility of the document: elements, system elements, AI system elements	Definitions given in 12207 and 15288 should be sufficient for this. No change is required.
6	Name: ChandraSR K Organisation: N/A	5.1 N/A		Technical	— Measurable potential decay: Since AI models aim to model a desired behaviour which can change over time, measuring and monitoring any deviations of the production data (data drift) or deviations towards the desired output (concept drift) can be required. The changing of desired behaviour is not restricted to AI systems only, but for AI models this is uniquely measurable by validating input and output. Change to— Measurable potential decay: Since AI models aim to model a desired behaviour which can change over time, measuring and monitoring any deviations of the production data (data drift) or deviations from the desired output (concept drift) can be required. The change of desired behaviour is not restricted to AI systems and for AI models this is uniquely measurable by validating input and output.	— Measurable potential decay: Since AI models aim to model a desired behaviour which can change over time, measuring and monitoring any deviations of the production data (data drift) or deviations towards the desired output (concept drift) can be required. The changing of desired behaviour is not restricted to AI systems only, but for AI models this is uniquely measurable by validating input and output. Change to — Measurable potential decay: Since AI models aim to model a desired behaviour which can change over time, measuring and monitoring any deviations of the production data (data drift) or deviations from the desired output (concept drift) can be required. The change of desired behaviour is not restricted to AI systems and for AI models this is uniquely measurable by validating input and output.	Proposed change is not technical, its editorial to bring more clarity. May be agreed

7	Name: ChandraSR K Organisation: N/A	5.1 N/A		Technic al	— Reliant on data: AI systems based on machine learning rely on sufficient, representative data to train, test and validate models. The behaviour of machine learning models is not programmed but is instead learned from the data. Because of this, it is important that particular consideration be given to the data (e.g. data quality) that are required for an AI system for training, testing, verification and validation. Algorithm selection and certail aspects of parameter selection is based on coding only	to be changed as per the comments	**Present content is ok however may be discussed.**
8	Name: ChandraSR K Organisation: N/A	5.3 N/A		Technic al	5.3 AI system life cycle model Figure 2 — Example of AI system life cycle model stages and high-level processes, following are observed. 1. Design, Development are 2 separate stages 2. System Architetcure missing 3. System Integration missing 4. Verification, Vlidation are 2 separate stages 5. Confirmity Assessment stage missing	Need to bring in all life cycle processes	comment discussed during comment resolution of 42001 so no change is required.
9	Name: ChandraSR K Organisation: N/A	5.3 N/A		Technic al	5.3 AI system life cycle model Figure 3 — AI system life cycle stages with technical processes, following are observed. 1. Re-evalauton block - missing verification	add verification in Re-evalauton block	May be agreed
10	Name: ChandraSR K Organisation: N/A	5.3 N/A		Technic al	5.3 AI system life cycle model — AI data engineering process: acquire and update data; — AI data engineering process: prepare data; can be changed into — AI data engineering process: acquire, prepare data and update data;	— AI data engineering process: acquire,prepare data and update data;	Please refer 6.4.8. In view of 6.4.8 no change is required however,it may be discussed.

11	Name: ChandraSR K Organisation: N/A	5.3 N/A		Technical	— implementation process and maintenance process: (re)train and tune model; can be changed into — implementation process : train,(re)train and tune model; — maintenance process : train,(re)train and tune model;	— implementation process : train,(re) train and tune model; — maintenance process : train,(re) train and tune model;	May be discussed
12	Name: ChandraSR K Organisation: N/A	5.3 N/A		Editorial	5.3 AI system life cycle model — verification process: test model before deployment; can be changed to — verification process: test AI system to ensure model meets requirements specifiction	— verification process: test AI system to ensure model meets requirements specifiction	definition of Verification 'confirmation, through the provision of objective evidence, that specified requirements have been fulfilled' so No change is required.
13	Name: ChandraSR K Organisation: N/A	5.3 N/A		Technical	5.3 AI system life cycle model add following missing process — Validation process: test AI system to ensure model meets User requirements specifiction	add following missing process — Validation process: test AI system to ensure model meets User requirements specifiction	All processed are not listed in this moreover continous validation is mentioned which indicated validation is itself a process. May be discussed.
14	Name: ChandraSR K Organisation: N/A	5.4.3 N/A		General	5.4.3 Conformance clause Clause 4 Confirmance - missing in IS ISO/IEC 5338. 5.4.3 Conformance clause can be changed to Clause 4 Confirmance	5.4.3 Conformance clause can be changed to Clause 4 Confirmance	Conformance is right. No change is required.

15	Name: ChandraSRK Organisation: N/A	6 N/A		Technical	6 AI System life cycle processes "There are no additional activities or tasks defined in the human resource management process." statement present in process section AI-specific particularities is not valid. Even list of items mentioned in respective processs sub section: AI-specific particularities , are actviities, tasks associated with AI. all processes (total 19 places) to be revisisted to update this. 6.1.2 Supply process 6.2.3 Portfolio management process 6.2.4 Human resource management process 6.2.5 Quality management process 6.2.6 Knowledge management process All process subsection 6.x.x.3 AI-specific particularities to be chnaged to 6.x.x.3 AI Outcomes, activities and tasks	update as per comment	Please refer 5.1, Content is ok. May be discussed.

16	Name: ChandraSR K Organisation: N/A	6.1.2.3 N/A		Technic al	6.1.2.3 AI-specific particularities There are no additional activities or tasks defined in the supply process. When implementing the activities and tasks in 6.1.2.2, the supplier should consider the following AI-specific particularities to propose, negotiate and agree with the acquirer of the AI system. 6.1.2.3 AI-specific particularities contains list of AI activites and tasks. So the content can be changed as follows: Supplier Process requires AI Specific Activty, Tasks listed in this section. When implementing the activities and tasks in 6.1.2.2, the supplier should consider the following AI-specific Activities,Tasks to propose, negotiate and agree with the acquirer of the AI system.	Supplier Process requires AI Specific Activty, Tasks listed in this section. When implementing the activities and tasks in 6.1.2.2, the supplier should consider the following AI-specific Activities,Tasks to propose, negotiate and agree with the acquirer of the AI system.	Please refer 5.1, Content is ok. May be discussed.
17	Name: ChandraSR K Organisation: N/A	6.2.3.3 N/A		Technic al	6.2.3.3 AI-specific particularities 6.2.3.3 AI-specific particularities contains list of AI activites and tasks. So the content can be changed as follows: Organizations should consider AI-specifi Activities, Tasks when implementing the activities and tasks in 6.2.3.2:	Organizations should consider AI-specifi Activities, Tasks when implementing the activities and tasks in 6.2.3.2:	Please refer 5.1, Content is ok. May be discussed.

18	Name: ChandraSR K Organisation: N/A	6.3.1.3 N/A	2	Technic al	6.3.1.3 AI-specific particularitie -> Revisit the content to refelect what exactly needs to be planned than asking for some exception. below statements not meeting standard requirements. In implementing the activity “plan project and technical management”, it is important to allow some flexibility with regards to model creation (see ISO/IEC/IEEE 15288:2023, 6.3.1.3 and ISO/IEC/IEEE 12207:2017, 6.3.1.3). Predictability of software development is already challenging and for model creation, this is even more the case.	revist the requirements	Comment and proposed change is not clear.
19	Name: ChandraSR K Organisation: N/A	6.3.2.3 N/A		Technic al	6.3.2.3 AI-specific particularities obsrevations: 1. 6.3.2.3 AI-specific particularities to be changed to 6.3.2.3 AI-specific Outcomes, Actities, Tasks 2. "There are no additional activities or tasks defined in the project assessment and control process" this is not correct, need to correct and list the activiiies, tasks 3. revisit the wording "In implementing the activity “plan for project assessment and control”, planing for project assessment and control process shall happen in 6.3.1 Project planning process. project assessment and control process includes actities, tasks related to project assessment and control process. 4. Insufficient activities, tasks identified and listed tht are associated with 6.3.2 Project assessment and control process	to be updated as per the comments	Please refer 5.1, Content is ok. May be discussed.

20	Name: ChandraSR K Organisation: N/A	6.3.7 N/A	2	Technic al	6.3.7 Measurement process In addition, processes for AI-specific measurements shall be considered (e.g. probability of erroneous output) if the AI system is related to safety but they are recommended to other AI systems, too. Specifically, the drift in AI models due to environment changes and due to autonomous changes can be measured for corrections. can be changed to In addition, activities, tasks for AI-specific measurements shall be considered (e.g. probability of erroneous output) if the AI system is related to safety but they are recommended to other AI systems, too. Specifically, the drift in AI models due to environment changes and due to autonomous changes can be measured for corrections.	In addition, activities, tasks for AI-specific measurements shall be considered (e.g. probability of erroneous output) if the AI system is related to safety but they are recommended to other AI systems, too. Specifically, the drift in AI models due to environment changes and due to autonomous changes can be measured for corrections.	This has been termed as 'generic'
21	Name: ChandraSR K Organisation: N/A	6.3.8.1 N/A	1	General	6.3.8 Quality assurance process 6.3.8.1 Purpose The purpose of the quality assurance process is to help ensure the effective application of the organization’s quality management process to the project. Can be chaned to The purpose of the quality assurance process is to facilitate the effective application of the organization’s quality management process to the project.	The purpose of the quality assurance process is to facilitate the effective application of the organization’s quality management process to the project.	Content is ok and is in line with 15288 and 12207.No change is required.

22	Name: ChandraSR K Organisation: N/A	6.4.7.1 N/A		General	6.4.7 Knowledge acquisition process 6.4.7.1 Purpose NOTE Knowledge in the knowledge acquisition process is the knowledge necessary to create the AI models. Can be chaned to The knowledge essential for constructing AI models is acquired during the knowledge acquisition process.	The knowledge essential for constructing AI models is acquired during the knowledge acquisition process.	Rational for proposed change is missing.Moreover, meaning of proposed change is already covered in 6.4.7.1 Purpose.
23	Name: ChandraSR K Organisation: N/A	6.4.7.2 N/A		Editoria l	6.4.7.2 Outcomes As a result of the successful performance of the knowledge acquisition process: a) Knowledge necessary to create the AI models is identified. b) Gathered knowledge is stored. c) Traceability of knowledge acquisition is established. Can be changed to The successful execution of the knowledge acquisition process leads to: a) Identification of the knowledge necessary for creating AI models. b) Storage of the gathered knowledge. c) Establishment of traceability in knowledge acquisition	The successful execution of the knowledge acquisition process leads to: a) Identification of the knowledge necessary for creating AI models. b) Storage of the gathered knowledge. c) Establishment of traceability in knowledge acquisition.	Present content is ok so no change is required.

24	Name: ChandraSRK Organisation: N/A	6.4.8.2 N/A	1	Editorial	6.4.8.2 Outcomes improve the content presentation The successful execution of the AI data engineering process leads to: a) Identification, sampling, and acquisition of required data and datasets are carried out. b) Preparation, formatting, and provision of training data, and if needed, validation data to machine learning models are completed. c) Test data is readied for testing or validation (refer to section 6.4.11). d) Data for manual analysis, aimed at enhancing comprehension to support both AI data engineering and model engineering processes, are readied. e) Identification of any automated processes for data extraction, transformation, and loading is undertaken. f) Compliance with applicable laws and legal standards regarding the recording and utilization of personal information in the data is ensured. g) Artefacts such as metadata are prepared to facilitate traceability, documentation, and maintenance of data and automated processes, including configuration management. h) Timely retirement of data is ensured. i) Management of multi-modal data is executed.	The successful execution of the AI data engineering process leads to: a) Identification, sampling, and acquisition of required data and datasets are carried out. b) Preparation, formatting, and provision of training data, and if needed, validation data to machine learning models are completed. c) Test data is readied for testing or validation (refer to section 6.4.11). d) Data for manual analysis, aimed at enhancing comprehension to support both AI data engineering and model engineering processes, are readied. e) Identification of any automated processes for data extraction, transformation, and loading is undertaken. f) Compliance with applicable laws and legal standards regarding the recording and utilization of personal information in the data is ensured. g) Artefacts such as metadata are prepared to facilitate traceability, documentation, and maintenance of data and automated processes, including configuration management. h) Timely retirement of data is ensured. i) Management of multi-modal data is executed.	Present content is ok so no change is required.

25	Name: ChandraSR K Organisation: N/A	6.4.14.1 N/A	2	Editorial	6.4.14 Continuous validation process 6.4.14.1 Purpose AI models aim to model a desired behaviour and this desired behaviour can change. Can be changed to AI models are designed to replicate a desired behavior, which may evolve over time.	AI models are designed to replicate a desired behavior, which may evolve over time.	Present content is ok so no change is required.
26	Name: ChandraSR K Organisation: N/A	6.4.14.1 N/A	3	Technical	6.4.14 Continuous validation process 6.4.14.1 Purpose If deviations are substantial, a machine learning requires retraining or continuous learning, as part of the maintenance process (see 6.4.16). Can be changed to If deviations are substantial, a machine learning requires not only retraining or continuous learning, but also there is need to rebuilding model as part of the maintenance process (see 6.4.16).	If deviations are substantial, a machine learning requires not only retraining or continuous learning, but also there is need to rebuilding model as part of the maintenance process (see 6.4.16).	rebuilidnig seems to be covered under re-training.No change is required.
27	Name: ChandraSR K Organisation: N/A	6.4.16.2 N/A		Technical	6.4.16 Maintenance process 6.4.16.2 Outcomes, activities and tasks need to cover scenario of re-building model as well	update as per comments	Same as above.

28	Name: ChandraSR K Organisation: N/A	ISO/IEC 5338 N/A	ISO/IEC 5338	General	ISO/IEC 5338 standard is not standalone, independent standard for AI Systems, ISO/IEC 5338 standard to be used along with ISO/IEC/IEEE 15228,ISO/IEC/IEEE 12207 Pictorial representation is required to reflect this on how the ISO/IEC 5338 standard is related to other standards.	Pictorial representation is required to reflect this on how the ISO/IEC 5338 standard is related to other standards. ISO/IEC/IEEE 15228,ISO/IEC/IEEE 12207	ISO/IEC 5338 is based on ISO/IEC/IEEE 15228 and ISO/IEC/IEEE 12207 however it would be not right to say 'ISO/IEC 5338 standard is not standalone and independent standard for AI Systems'. No change is required at this stage. Proposed picture may be provided to consider further.
29	Name: ChandraSR K Organisation: N/A	ISO/IEC 5338	ISO/IEC 5338	General	Change to "System and Software Engineering — AI system life cycle processes" instead of "Information technology — Artificial intelligence — AI system life cycle processes"	System and Software Engineering — AI system life cycle processes	It is not part of System and software engineering standards so No change is required.
30	Name: ChandraSR K Organisation: N/A	ISO/IEC 5338	ISO/IEC 5338	General	IS ISO/IEC 5338 not maintained High Level structure with ISO/IEC/IEEE 15228, ISO/IEC/IEEE 12207 for ex. Clause 4 Confirmance - missing Clause 3 Terms, definitions, and abbreviated terms split into multiple clauses Clasuse 5 - title changed	Foreword Introduction 1 Scope 2 Normative references 3 Terms, definitions, and abbreviated terms 4 Conformance 4.1 Intended usage 4.2 Full conformance 4.2.1 Full conformance to outcomes 4.2.2 Full conformance to tasks 4.3 Tailored conformance 6.x.x <Process name> process 6.x.x.1 Purpose 6.x.x.2 Outcomes, activities and tasks 6.x.x.3 AI-specific Outcomes, activities and tasks	That was not the intent of the document. Moreover, conformance part is covered under 5.4.3. No change is required.

SNo.	Basic Details	Clause/S	Paragraph	Type of	Comments/Suggestions along with	Proposed Change/Modified	Status/Reply
	Name: ChandraSR Organisation: N/A Email:	1 N/A			Please provide access to the draft standard to Without providding drafct acess, it is difificult	Please provide access to the draft Without providding drafct acess, it is	Approved/ Documents already shared

1	Mobile: Comment ID #:		1	General			
2	Name: KSHITIJ Organisation: Email: kshitij. Mobile: Comment ID #:	FOREWO N/A		Editorial	The standard IS/ISO/IEC/IEEE 15288: 2023 should be in dual numbering.	The correct standard is IS 16457 ISO/IEC/IEEE 15288 : 2023 [Under	Approved/ Action needs to be incorporated
3	Name: Shri Aveg Organisation: N/A Email: aveg@ipr. Mobile: Comment ID #:	N/A		Editorial	I agree with the Draft		/
4	Name: Shri Aveg Organisation: N/A Email: aveg@ipr. Mobile: Comment ID #:	N/A		Editorial	I agree with the Draft		/
5	Name: shailendra Organisation: N/A Email: shailendra. Mobile: Comment ID #:	N/A		Editorial	I agree with the Draft		/