

**ISO/IEC JTC 1/WG 7**  
**Working Group on Sensor Networks**

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**Template for comments and secretariat observations**  
**US NB comments on WGSN N021**

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1	2	(3)	4	5	(6)	(7)
<b>MB<sup>1</sup></b>	<b>Clause No./ Subclause No./ Annex (e.g. 3.1)</b>	<b>Paragraph/ Figure/Table/ Note (e.g. Table 1)</b>	<b>Type of com- ment<sup>2</sup></b>	<b>Comment (justification for change) by the MB</b>	<b>Proposed change by the MB</b>	<b>Secretariat observations on each comment submitted</b>
US 1.	Entire document		ge	Is it the correct ISO template? Different fonts and font sizes have been used.	Please use correct ISO template.	
US 2.	Page 2		ed	Use the plural form for the first three definitions to be consistent with what comes next.	Change the first three definition titles to "Sensors", "Actuators", and "Sensor Nodes".	
US 3.	Page 2	Definition of "Sensors"	te	The definition can be improved.	Suggest using the following definition:  "A sensor is a device that observes a phenomenon (phenomena), measures a physical property related to the phenomenon (phenomena), and converts the measurement signifying the quantity of that physical property into a signal."	
US 4.	Page 2	Definition of "Actuators"	te	The definition can be improved.	Suggest using the following definition:  "An actuator is a devices that takes a physical action in response to a command signal."	
US 5.	Page 2	Definition of "Sensor Nodes"	te	Not all sensor nodes do local processing. Some just output the raw sensor measurements.	Suggest using the following text:  "A sensor node is a device that consists of at least one sensor, zero or more actuators, and networking capability through wired or wireless means. It may also have the capability to locally process the raw measurement(s) made by the sensor(s)."	
US 6.	Page 2	Definition of "Sensor Network Gateway"	ed	It refers to a "sensor network", whose definition has appeared after that of a "Sensor Network Gateway".	The definition for a "Sensor Network" should precede that of a "Sensor Network Gateway".	
US 7.	Page 2	Definition of "Sensor Networks"	te	The phrase "a system of distributed sensor nodes" is somewhat ambiguous.	Suggest using the following text:  "A sensor network is a system of sensor nodes distributed over certain physical space or geographic area, whether as small as the	

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					protective clothing of a fire fighter or as large as tens of thousands of acres of forest land, that are interfaced with each other and with other environments in order to acquire, process, and transfer sensor measurements and to provide information extracted from the physical world in order to take certain actions and cause some changes in the physical world."	
US 8.	Page 2	Definition of "Sensor Network Gateway"	te	Given that careful definitions have been provided for all important terms, there really ought to be a definition for the "back-end system" as well.	Come up with a definition for the "Back-End System" based on the following paragraph.  The measurements made by sensor nodes or their locally processed data typically need to be communicated over a networking infrastructure [This is a better term than the "IT infrastructure".] to an entity, whether a human or an intelligent machine, that may further process these measurements / processed data and possibly issue commands to actuators over a networking infrastructure that may be separate from the one used for carrying sensor data to the human operator or machine.	
US 9.	Page 2	Definition for "Sensor Networks"	te	For clarity, suggest combining the note after the definition for "Sensor Networks" with the definition itself.	Add the following sentence to the end of the definition given above:  "As such, it consists of a number of sensors and communication nodes and possibly some actuators."	
US 10.	Pages 2 and 3	"Sensor Network Services" and "User Services"	te	The distinction between "Sensor Network Services" and "User Services" is not clear. The present definitions are ambiguous. Not knowing what is meant by these and "Sensor Network Applications" and what a "provider" is, it is hard to suggest alternate definitions or revise these parts. For	Perhaps all this needs to be further discussed. Here are two interim steps:  1. Suggest adding a note after "Sensor Network Services" to clarify what is meant by such services.	

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				example, why has a note pertaining to sensor network applications has appeared after the definition for "User Services" and a note related to services after the definition for "Sensor Network Applications"?	2. Suggest replacing the text  "A sensor network application performs value-adding functions to sensor data according to user requirements, and finally the processing results are provided as a service to the user."  with  "A sensor network application performs value-added processing on sensor data according to user requirements and makes the processed data available to the user as a service."	
US 11.	Page 3	Second note after the definition of "sensor Network Applications"	te	The note can be improved.	Suggest changing the note to read as follows:  "A sensor network application employs software and hardware that processes sensor data in a fully or partially automatic way. In addition, the application can be accessed locally or remotely."	
US 12.	Pages 3 and 4		ed/te	Why should WGSN-007 and WGSN-008 have separate definitions for the same entities/notions such as sensors, actuators, sensor networks, and others? Some of the same notions are also defined by ITU-T Y.2221 later in the document. It would be nice to have harmonization and only one definition for each entity/concept.	Discuss harmonization of terms among WGSN-007, WGSN-008, and ITU-T Y.2221.	
US 13.	Page 4	Definition for "Sensor Network Service Management"	ed/te	The definition is ambiguous. Is this needed at all?	Please clarify.	
US 14.	Page 4	Definition of	te	The definition can be improved.	Suggest changing the definition for "Context	

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		"Context Awareness"			Awareness" to the following:  "Context awareness is the capability to infer high level, qualitative information about the physical environment based on low level information measured by one or more sensors. The high level information is then typically used to take a more informed decision or action than what would be possible in the absence of context awareness."	
US 15.	Page 5	Definitions of "Ubiquitous Sensor Network (USN)" and "USN Middleware"	ed/te	Are these definitions needed at all? Ubiquity is a "fuzzy" attribute of a sensor network. Some sensor networks may be ubiquitous, some may not.	Suggest removing these definitions. If they are to be kept, they need rewrites.	
US 16.	Page 5	Definitions of "Open Application Interface", "Processed Data", and "Sensor Network Common Interface"	te	Why are these notions defined for a USN only as opposed to a general sensor network?	The definitions may need rewrites, pending further discussions on the subject.	
US 17.	Pages 5-6	Definition of "Sensor Network Metadata"	ed/te	The definition can be improved.	Suggest using the following text for the definition of "Sensor Network Metadata":  "Information about a sensor network such as description of the network, sensor node identifiers, supported sensor types, the number of sensors attached to each sensor node, and the number of sensor nodes comprising the sensor network, etc."	

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US 18.	Page 6	Definition of "Sensor Network Managemen t Protocol Agent"	ed	Grammar	Change "responder" to "responders".	
US 19.	Page 6	Definition of "Sensor Network Managemen t Protocol Agent"	ed	Typo	"Remove the ":".	
US 20.	Page 6	Definition of "Sensor Network Managemen t Protocol Manager"	te	It does not make much sense to have both "Management" and "Manager" in the same name.	Come up with a better name.	
US 21.	Page 6	Definition of "Sensor Network Managemen t Protocol Manager"	ed	Grammar	Change "generator" to "generators".	
US 22.	Pages 6-7	Terminology to be defined in JTC1 WG7	te	Two noteworthy absences in the list of terminology to be defined are the notions of "Data Fusion" and "Multimodal Data Fusion".	Add the following new terms: "Data Fusion" and "Multimodal Data Fusion"	

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