

FAQ concerning ETSI ISG on Context Information Management

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1. What is Context Information Management?

Every sensor measurement, every entry in a database, every Tweet sent and every webcam video watched has its own context. Usually this is considered “obvious” by the consumer of the information: the temperature sensor is attached to an air-conditioner in her house, the database about vehicle registration numbers is used directly by a policeman in the city, the tweet is from persona XYZ stopped in a traffic jam, the webcam shows the view of a particular city street and the text label naming it is embedded in the media-stream. But taken away from its context, each piece of information is often nearly useless. Even worse, people and especially software programs/agents searching for useful information can only find it if the context is available i.e. published with the data.

A Context Information Management system offers a clearing-house for publishing, discovering, monitoring and manipulating the data which has the right context for an application. The primary goal is to allow interoperability, as well as rapid and scalable operations. Context Information Management (also sometimes known as Context Brokering) has emerged - along with the management of the primary data - as a source of additional functionalities for data analysis and knowledge discovery. With the rapid development of technologies such as Big Data, Semantic Web, complex workflow, autonomous decision making, etc., the need for interoperable context brokering has increased massively in the past few years.

2. Why is it considered “urgent” in the smart cities domain to fill a “gap” for context management, when there are already so many semantics and open data initiatives ?

It is correct that there are many initiatives, many related to IoT and to smart-city big data. Recently there have been surveys by ITU-T, AIOTI and the SAREF team in ETSI SmartM2M. The EC has promoted interoperability of open data for (smart) cities for a number of years. Similar initiatives exist in the USA (under coordination by NIST).

It is urgent that ETSI collect together an overview of approaches and concepts from many stakeholders (especially smart cities, research institutions, smaller organisations ...) and also the existing status of implementations of open-data information exchange, to form a guiding opinion about how to achieve a “critical mass” and a wide interoperability for European smart cities (in the first instance).

It is clear that European smart cities will not be able to meet their targets for sustainability etc etc if they each and individually need to examine all the options and then choose their (multiple!) solutions.

3. Why an Industry Specification Group and not directly in an ETSI TC ?

Industry Specification Groups (ISGs) provide a proven contractual framework and a flexible governance structure to serve as a platform for standards related work, covering the entire standardization lifecycle from informative work to normative work and testing.

The ISG system was exactly set up by ETSI to handle cases, where there are a large number of stakeholders who are not ETSI members yet have a strong interest in reaching broad consensus on a widely applicable specification which may eventually become part of a European Standard. ETSI brings the transparency and competence in handling complex standardisation issues, the non-ETSI participants and also ETSI members can bring experience and expertise from outside/across the current ETSI TC structures.

An ISG lowers the barriers to entry to the standardisation process. There is no additional cost for ETSI members and a very reasonable fee structure for non-ETSI members to ensure that all users, researchers, developers, integrators, deployment organisations and vendors have a chance to join, listen and contribute.

ISGs facilitate cross-TC pre-standardization activities under the umbrella of ETSI. Such a “clean slate” initial starting point for an ISG reduces another barrier to entry, namely not needing from day one to ensure conformity to an existing (large) body of work within a specific ETSI TC. This usually requires very significant amounts of study and analysis by delegates, in parallel or even before they can start composing requirements and potential solutions for their key topic. Smaller stakeholders just do not have such time and manpower resources.

4. What about overlap with ETSI SmartM2M and also oneM2M ?

The ToR include detailed plans to liaise and coordinate the work with other standardisation bodies and related initiatives. The intention is to avoid overlap and not to “re-invent the wheel”: specifically the ToR states “ISG CIM will stay focused on specifications of three main mechanisms: a common context information management API, data publication platforms and standard data models. The ISG CIM will work closely with ETSI SmartM2M and oneM2M, since IoT is one of the sources of context data for smart applications and several context information models may be based on ontologies defined at that level.”

The workplan for the ISG includes specific liaisons and workshop(s) with SmartM2M and oneM2M to encourage clarification of potential overlap and re-use of existing specifications/work. There are “check points” at 12-months and at the end of the optional second year for the ETSI Board to review suitability of the ToR and deliverables.

5. Why is there a 72-hour (3 days) upload deadline for meeting contributions?

Experience in many SDOs shows that late contributions are more difficult to handle, because members have had too little time to consider the issues. As a compromise, such late contributions can be considered as long as there is a consensus to do so. It is hoped that this deadline mechanism will improve the workflow in a highly diverse community of stakeholders.

6. Why is there a special rule about voting eligibility?

The ToR says “ISG CIM Members are only eligible for voting (voting members), if they have been present during at least one (1) out of the previous two (2) physical meetings and 50% of the virtual meetings from the date of their last physical meeting attendance”. The reason is to ensure that issues brought to a vote have had sufficient “socialization” within the diverse set of stakeholders, and that there is a mechanism to encourage active and continuous participation.