AIOTI

ALLIANCE FOR INTERNET OF THINGS INNOVATION

Workshop "Platforms for connected Factories of the Future“ Brussels, October 5th 2015

AIOTI WG03 IoT Standardisation

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Introduction to Alliance for IoT Innovation - AIOTI

- AIOTI was launched by the European Commission in March 2015 to create a vibrant IoT ecosystem in Europe, and aims notably at breaking silos between leading vertical IoT application areas.
- AIOTI will be an important tool for supporting the policy and dialogue within the Internet of Things (IoT) ecosystem and with the European Commission.
- AIOTI builds on the work of the IoT European Research Cluster (IERC) and expands activities towards innovation within and across industries. This also offers an opportunity to discuss legal obstacles to further IoT take up, and to forge consensus. The Alliance will also help the Commission prepare future IoT research and innovation, standardization and policy.

AIOTI Structure

- Steering Committee
  - WG Chairs, European Commission, Startupbootcamp (SME Representative)
- Working Groups (Chair, Alternate Chair):
  - WG 01: IoT European research cluster (SINTEF)
  - WG 02: Innovation Ecosystems (Philips, Stromatolite)
  - WG 03: IoT Standardization (ETSI, Schneider Electric)
  - WG 04: Policy issues (Vodafone, Thales)
  - WG 05: Smart living environments for ageing well (STMicro)
  - WG 06: Smart farming and food security (Gradiant, Orange)
  - WG 07: Wearables (Samsung, iMinds)
  - WG 08: Smart cities (Telefonica, Engineering)
  - WG 09: Smart mobility (Bosch, Dunavent)
  - WG 10: Smart environment/smart water management (Sigfox, TI)
  - WG 11: Smart manufacturing (Cisco, EFFRA)

AIOTI Standardization work

- Standardisation will play a key role in the uptake of IoT. Since many of the benefits from the Internet of Things will occur on the basis of widespread adoption, sharing data across the value chain and novel services, the development of global - industry-led - standards is pivotal to ensure effectiveness, interoperability and economies of scale. In particular reference models as the basis for a reference architecture, that can be shared by industrial actors across different application domains can help breaking silos between leading vertical IoT application areas.

AIOTI Standardization work

- Scope: To develop an accompanying document for the IoT LSP (Large Scale Pilot) calls. The document should make reference to existing and emerging IoT architectures from SDO's, consortia, alliances and should provide recommendations on guidance to be given to call respondents. The document may also make recommendations with regard to gaps, issues facing IoT architectures and challenges which may be included within the scope of the calls (e.g. the challenge of semantic interoperability).

AIOTI Standardization work

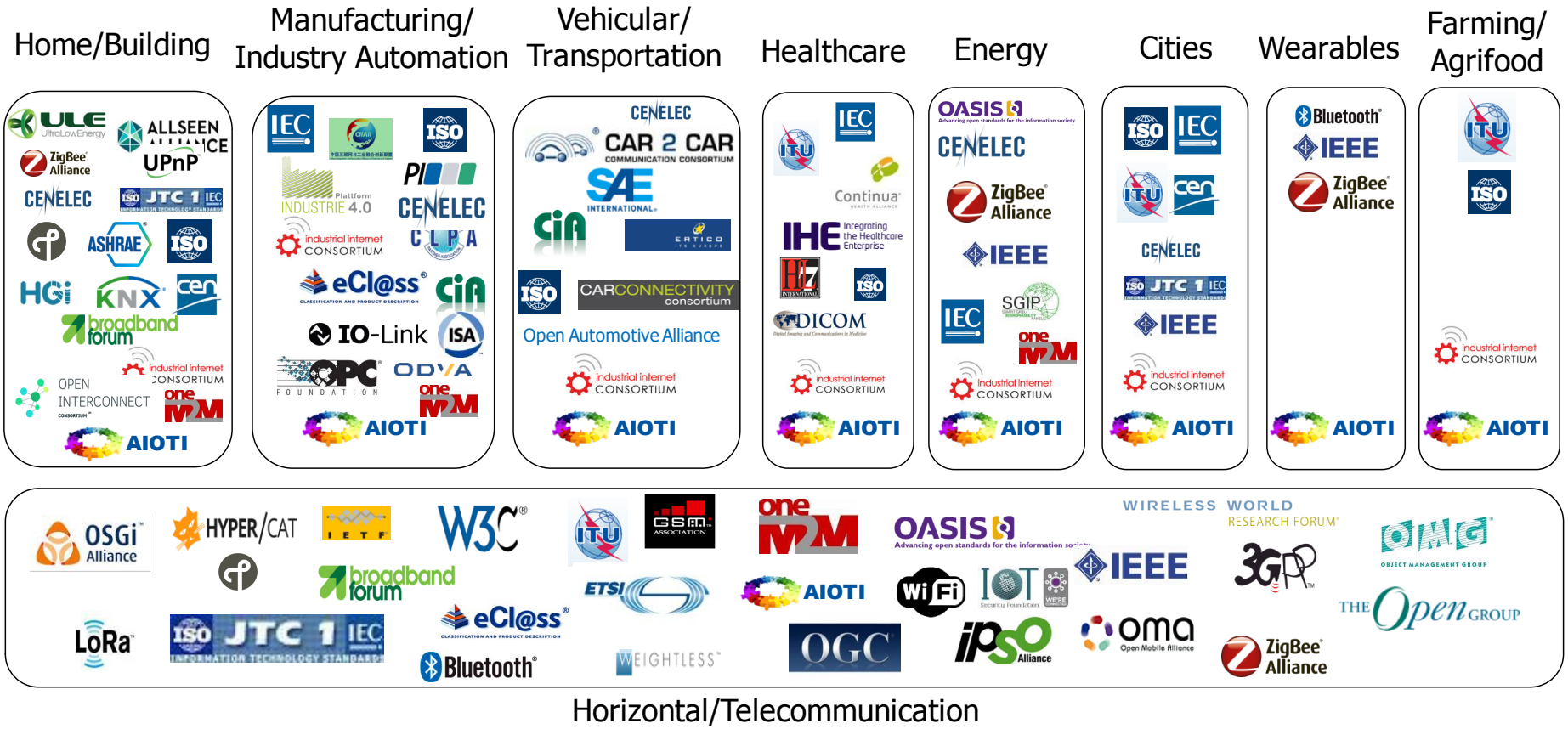
- Achievements:
  - Consolidated set of recommendations developed between June and September 2015 covering
    - IoT standardization and open source landscape
    - IoT reference architecture
    - Semantic interoperability
  - EC is very positive about the results. Very positive feedback achieved from outside stakeholders

The IoT standardization challenge

- AIOTI WG03 IoT Standardization landscape (and still extending)

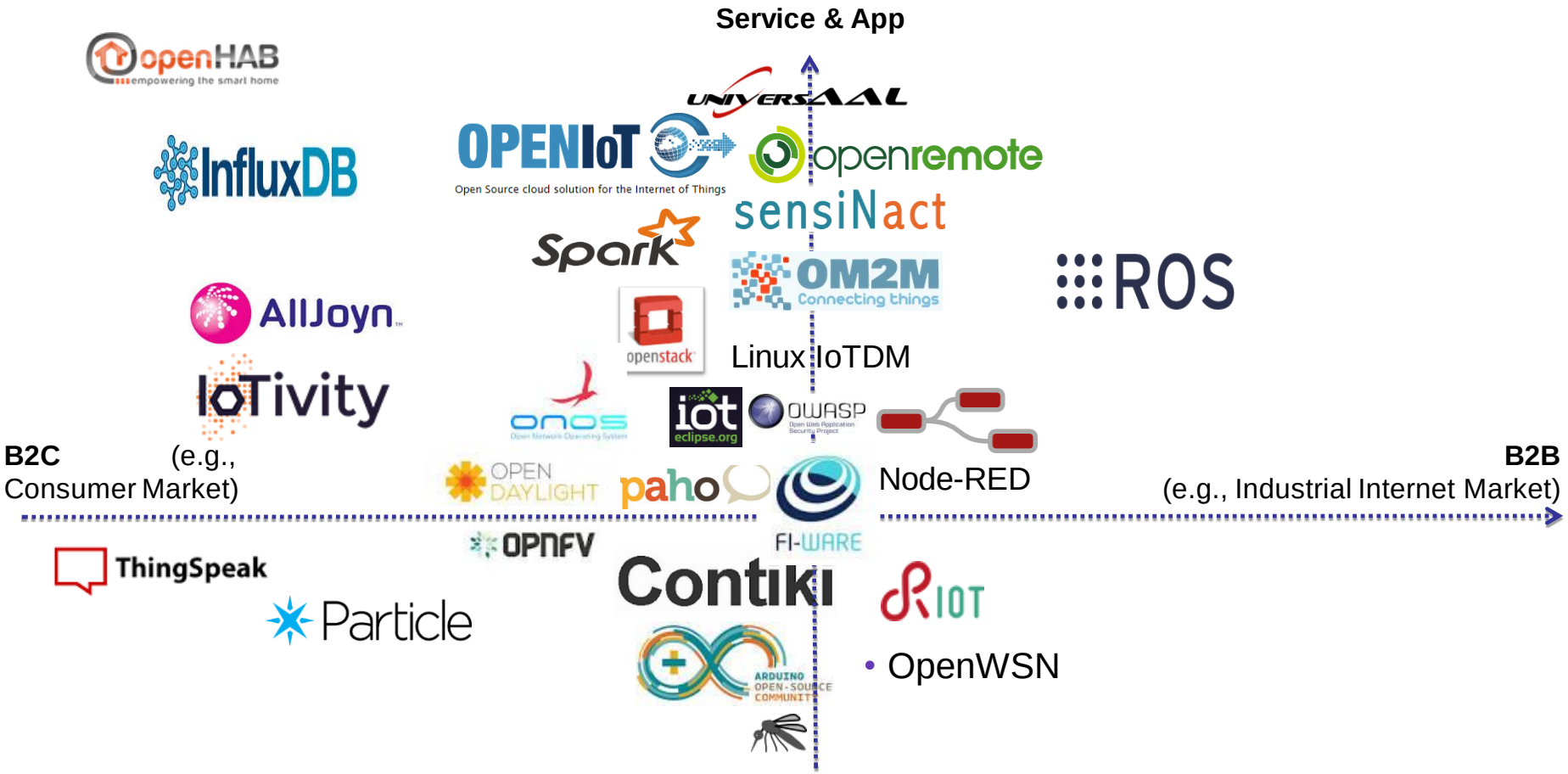
Many related vertical and horizontal activities

- AIOTI WG03 IoT Standardization landscape (and still extending)



And not to forget Open Source developments

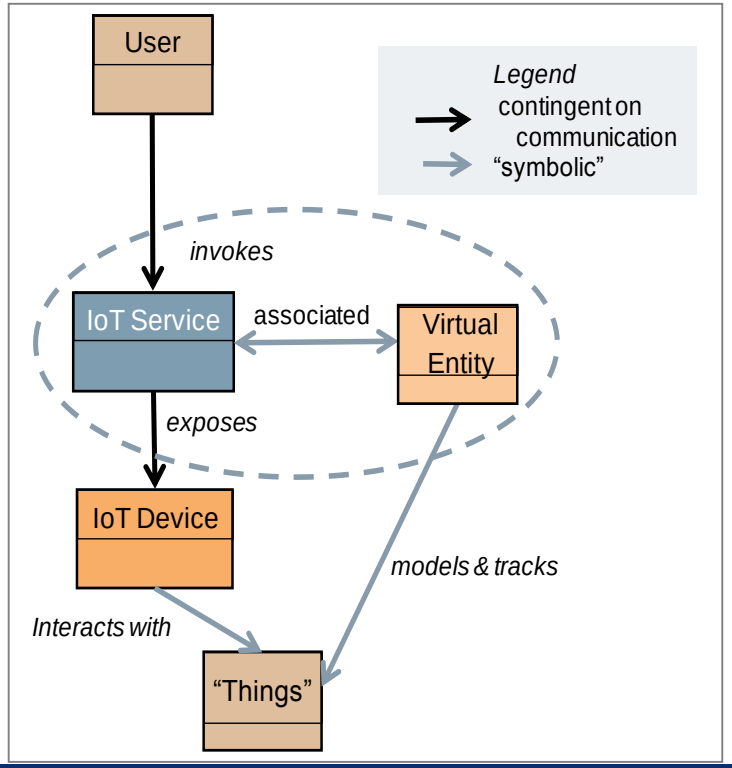
- AIOTI WG03 IoT Standardization landscape (and still extending)



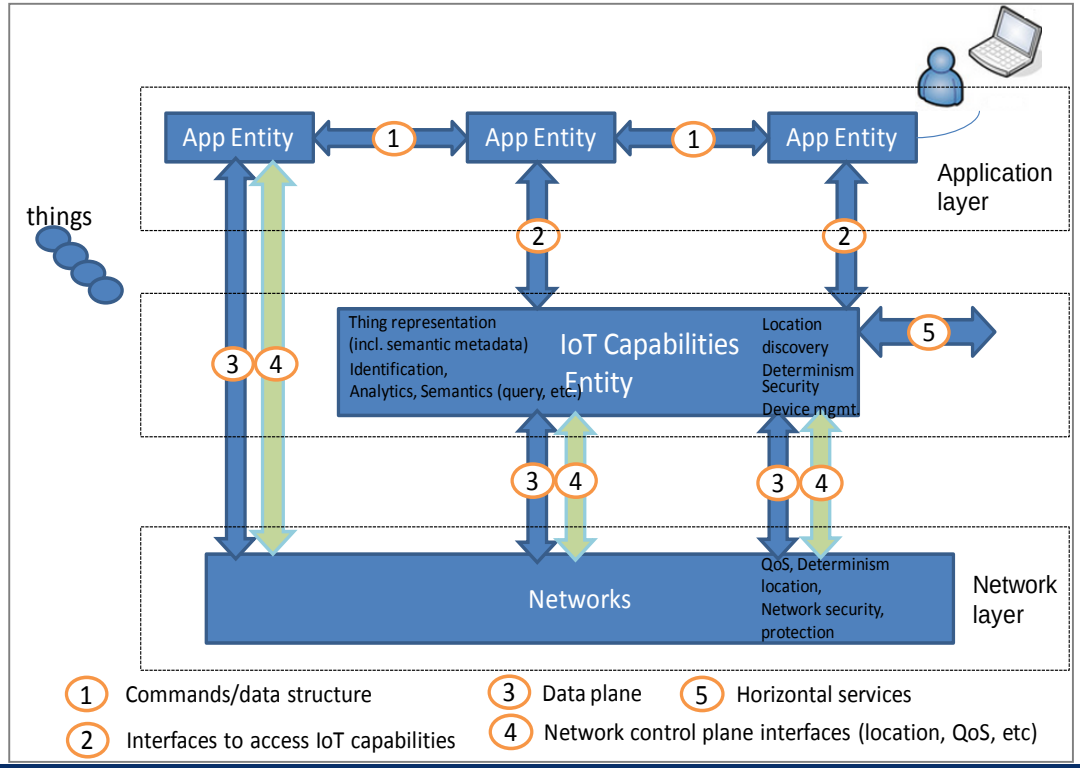
A consolidated high level IoT Reference Architecture

- AIOTI WG03 IoT Reference Architecture
  - Consolidation of IoT reference architecture from many sources, i.e. IoT-A, IEEE P2413, OneM2M, ITU, JTC1
  - Architectural views based on ISO/IEC/IEEE 42010

❑ Domain model:



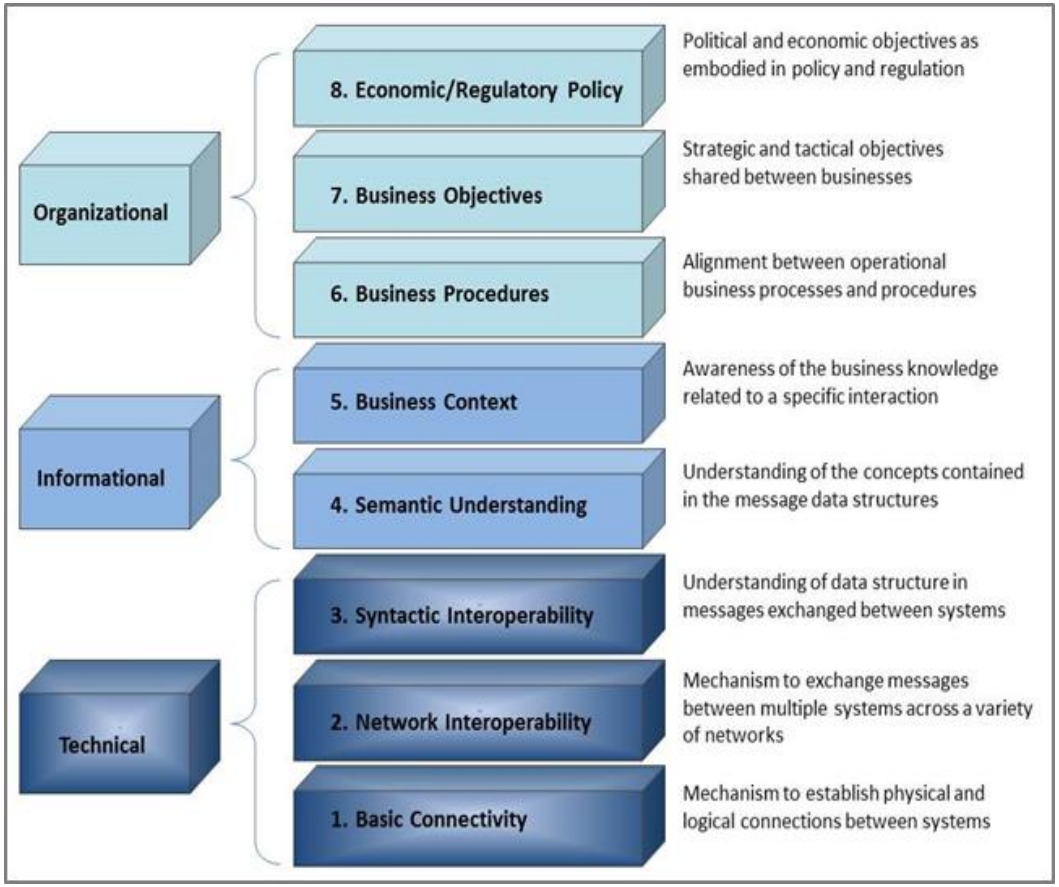
❑ Functional model:



Semantic interoperability is key for IoT

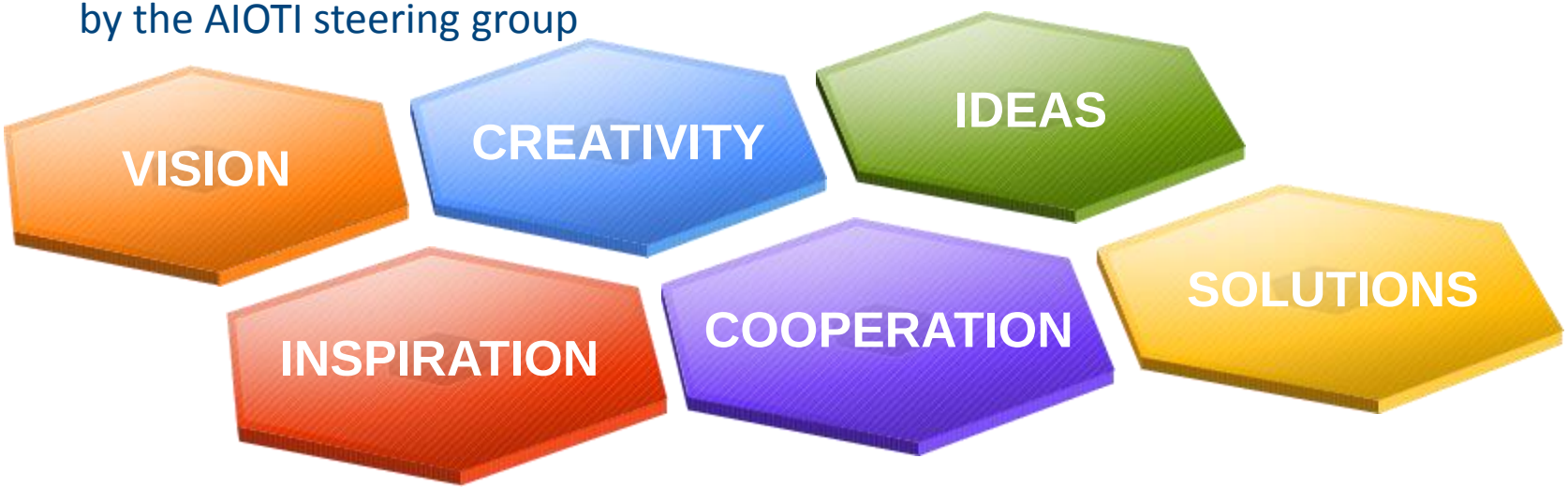
AIOTI WG03 Semantic Interoperability

- Semantic interoperability a cross the various application domains is a major issue for IoT
- Key challenges:
  - Ontologies that formalize the meaning of domain data and information models
  - Ontology merging, matching and alignment strategies a cross domains
  - Semantic discovery of services, devices, things and their capabilities
  - Semantic metadata



AIOTI – the next steps

- AIOTI way forward
  - Promotion of IoT LSP calls and AIOTI recommendations by European Commission
    - Dissemination and promotion of AIOTI results:
    - In conferences and workshops like this
    - Organization of open information days
    - IoT reference architecture workshop of EC and AIOTI WG3 on November 4th in Brussels
  - Future directions and setup of AIOTI after this first phase (IoT LSP calls) discussed by the AIOTI steering group



Thank you!

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