Enabling IoT for Smart Cities: Open APIs and Common Data Models

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Success of IoT depends on accessibility and reuse of information

- Current reality: information silos
  → Integrate information silos

- Current reality: heterogeneous information accessible through a plethora of APIs
  → Information on suitable abstraction level, accessible through single API

- Smart city: large scale heterogenous deployments
  → Applications need to find relevant information

- Dynamically changing sources
  → Applications need to be independent of specific sources

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NGSI-LD: Common Information (Meta) Model

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NGSI-LD: Information-centric API

What is the location of Sam?  
Which poles have cameras attached?  
Which cars are within geographic area?

NGSI-LD Features
- Knowledge graph: Entities have Properties and Relationships
- Annotated Properties and Relationships
- Synchronous query and asynchronous subscription/notification interaction
- Filtering & paging
- Geographic scoping
- Temporal queries
- Support for centralized, distributed and federated architectures

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