

Connecting AI systems to the Physical World

E-commerce for Humans and AI Agents
W3C and GS1 workshop
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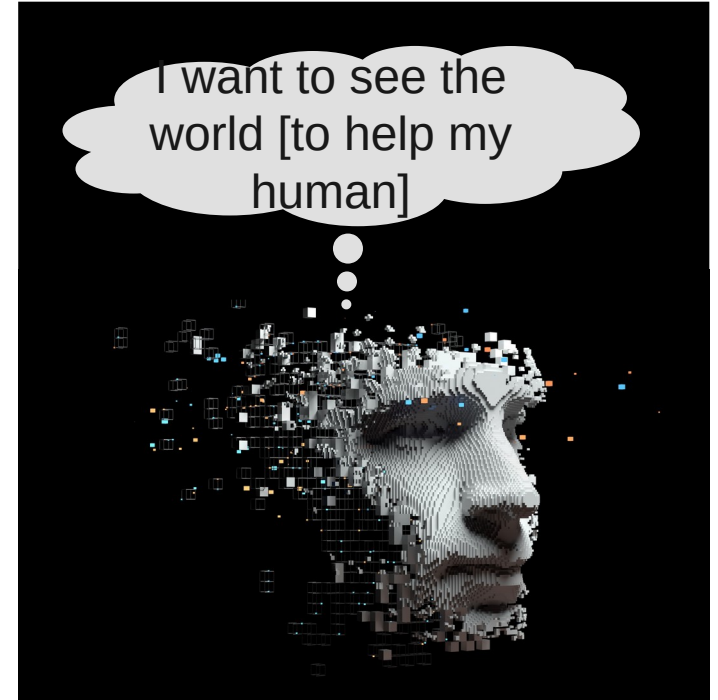
Goals

We approach the workshop's topic from the angle of enabling agents to interact with the real world

- Including being able to access real-time information about the world
- Or influence it

Traditional e-commerce of course is part of this (online buying results in a physical box on user's door)

- But maybe our angle lets us think about the workshop topic in a broader sense



Outline

- Motivation
- Example use cases
- Questions for the workshop to discuss
 - Potential new technical requirements, etc.

Motivation

Motivation, part 1

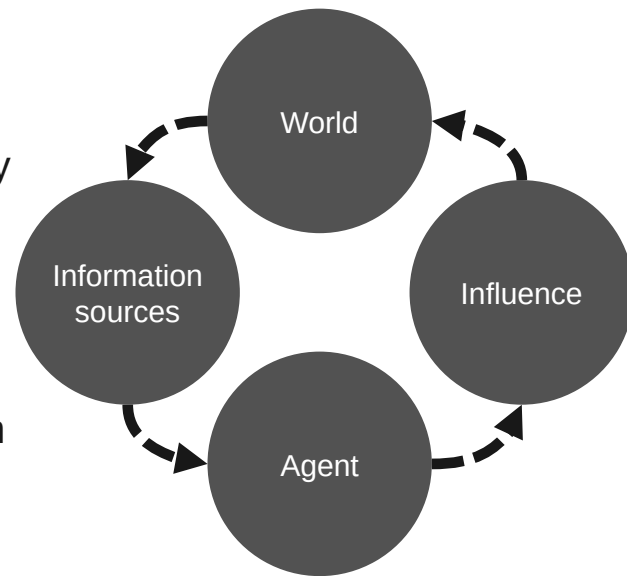
You may ask why is Ericsson looking at this?

The answer is two-fold:

- First off, can we help societies and businesses in their increasingly AI- and data-driven processes (agents, digital twins, etc.)?
- Secondly, could the networks that we build provide more than communications?

We've been building solutions to provide real-world information* from networks to those that would benefit from it, building AI agent solutions that consume information from networks and elsewhere, experimenting with different use cases, etc.

*) User positions, density of users in an area, sensing the environment, ...



Motivation, part 2

More importantly: is it beneficial for users or applications?

- Additional information enables better decisions – even for agents
- Especially for agents, given their blindness to the world
- And their ability to easily integrate to new systems

Agents observing the real world open up a massive set of use cases

- We don't want agents to be just chat bots
- We want them to see through our smart glasses, observe the world around us, and cause real world things to happen, to keep humans safe...

AI becomes able to take action when the real world demands it

- Not just chat responses based on static Internet/literature content



Example use cases

Use case: Requesting connectivity services

An AI agent is used to dynamically request network service

- Drone-provided connectivity (emergency)
- Quality upgrade for communications that the agent needs

This requires real-time negotiation, authorization, and payment.

Agents would be in a position to decide when such service is needed. They can use existing or new interfaces to make requests (on a commercial basis)



(Source: [“What is digital airspace?”](#) Ericsson)

Use case: Sensing and location-based services

Agents access contextual data (location, environment) as part of their task, such as planning a delivery drone drop to a customer, which would benefit from for instance understanding the location of the user, or what airborne other objects there are.

Location data access needs to address privacy, user consent, and data governance. Similarly, environmental sensing data must be used appropriately and address any privacy or other aspects.



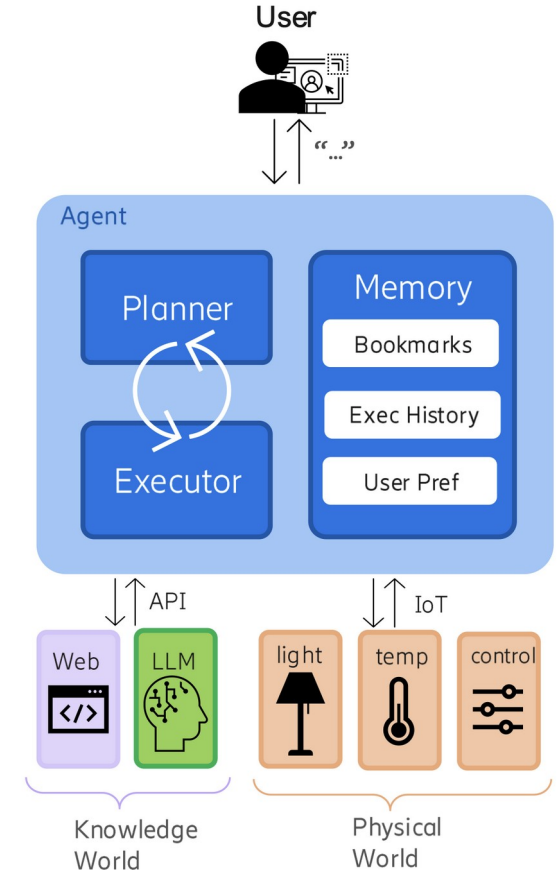
The appropriate use cases depend on what data is provided.

Use case: Interaction with IoT-systems

Agents control or configure physical devices (sensors and actuators), for instance in smart homes or industrial environments.

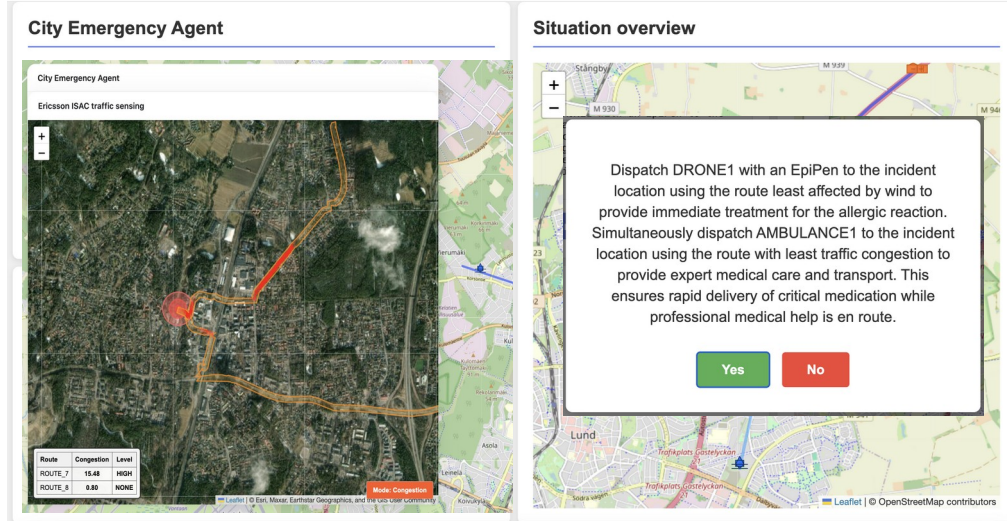
Agents need to find and select the right devices, connect with them, and ensure that the use of the devices is appropriate and agreed among the relevant parties.

Some use cases would be in private environments, others would be cross-organizational and may require commercial actions (services provided by robots, etc.)



Use case: Emergency response

An agent gathers information from multiple sources. It combines contextual data such as location, traffic, and environmental conditions to select and initiate an appropriate emergency service, such as dispatching ambulances or medical aid-carrying drones, alerting nearby helpers, and planning routes.



(Source: ["6G beyond connectivity"](#), Ericsson/Dassault)



Questions for the workshop to discuss

Questions for the workshop to discuss (1)

Technical aspects:

- How is information discovered & interpreted?
 - Do we need common vocabularies or schemas for real world information?
 - How should agent protocols (e.g., MCP) represent and orchestrate such capabilities?
 - How to hook into existing spatial information etc. ontologies?
- How can we enable reactive agent systems that take action when something happens?
- What mechanisms are needed to ensure payment handling, observability, and auditability across multi-step agent workflows that have real-world dependencies?

Questions for the workshop to discuss (2)

Broader questions:

- How can APIs connecting to the physical world, be effectively & safely integrated into AI agent-based e-commerce systems to discover and use real-world capabilities?
- Where are human oversight, policies, and consent required and how should they be incorporated into automated decision-making processes, especially for real-world impacts?
- What real world information/influence services can the industry provide that is most useful?
 - What do you need?
 - What can geographic information industry, networking industry, IoT industry, ... offer?
- Are new standards or extensions required to support agent interaction with physical-world services?



Q&R



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