Course : Smart Cities, challenges and prospects for the city of the future

Synthesis course - 2d - 14h00 - Ref. SGD
Price : 2020 CHF E.T.

The emergence of a new city model, the Smart Cities, is an opportunity to develop new modes of urban management, community living and citizen involvement. This summary course will introduce you to the issues, challenges, opportunities and regulations surrounding Smart Cities.

Teaching objectives

At the end of the training, the participant will be able to:

- Understand the basic concepts of a Smart City
- Assessing the consequences of the digital transformation of public administration
- Consider the European and French vision of Smart Cities
- Analyze the impact of Smart Cities on people's daily lives

Intended audience
IT managers, consultants (SSII), project managers, and anyone who needs to be part of a [[smart cities]] project.

Prerequisites
No special knowledge required.

Course schedule

1. The emergence of Smart Cities

- Main concepts of Smart Cities.
- Smart cities for city performance.
- E-administration, towards simpler, more efficient administrations.
- The European Smart Cities framework.
- Regulatory framework (CNIL, Open Data, etc.).
- Standards (ISO TC21, ISO 9001, ISO 37101, etc.).
- State of the art projects in Europe and the rest of the world (New York, Tokyo...).
- The six dimensions of a smart city.
- Key challenges.

2. Smart Cities for public spaces

- Give the Smartphone the role of "city remote control".
- Making buildings smarter.
- Home automation and building management systems.
- Smart metering (Linky meter from ERDF).
- Technologies and tools for adapting homes to people in difficulty.
- Equipment. Waste management.
- Simulate living conditions in a neighborhood.
- Think short circuits for more efficient management.
- Unlimited access to information.

3. Multiservice city infrastructures and the development of Smart Cities

- Multiservice infrastructures: definition and benefits.
- Optimizing energy performance: water, electricity and gas management...
- Multi-service backbone network (telephone, IT, video surveillance, sensors).
- FTTH broadband network.
- Communicate with infrastructures using sensors and telemetry networks.
- Smart Grids.

4. Mobility and travel

- Flow management.
- The sharing economy.
- Anticipating needs and behaviors.
- User information interfaces.
- Parking is just a click away.
- A travel management system (intelligent vehicles).
- Ease traffic congestion and limit pollution.

5. From Open Data to Big Data

- Reusing public data: the promise.
- Open public data, points for improvement.
- What business model should you implement?
- Data sharing.
- From Open Data to Big Data.
- Liberate data to stimulate innovation.
- Is data monetization a new source of revenue for local authorities?
- Territorial memory.

(6) Education and the democracy of the future

- The digital school. The fight against school failure.
- Rethinking teaching and the transmission of knowledge.
- Relationships between parents, teachers and local authorities. Benefit from collective intelligence.
- From schoolbag to tablet. Lessons from the first experiments.
- Why do MOOCs work? What are the real changes? What are the benefits?
- From pedagogy to anthropogy.
- Participatory democracy. Involving residents in the creation and development of the city.
- E-referendum. Report malfunctions via mobile applications.
- How can we harness the power of collaborative e-citizenship in a region, a department, a community of communes...?
- What are the real benefits and challenges?

(7) The city of the future and territorial foresight

- Cultural districts.
- Living labs" come in all shapes and sizes: Medialabs, Fablabs...
- How can we get residents and retailers to work together?
- Enhance the quality of life of constituents through personalized service.
- Adapt Business Intelligence methods to police needs.
- Educate the future players in the knowledge economy.
- Design new interactions with the urban environment.

(8) Territorial innovation and economic development

- Collect and correlate public health data.
- Focus on telehealth.
- Social relations rethought.
- Memory and digital identity management.
- Reduce costs by using new technologies.
- Transform individual skills into profitable activities.
- Produce goods at home.
- The power grid at the service of sustainable development.
- The "clusterization" of territories is one of the vectors of this link economy.
- Pooling equipment.