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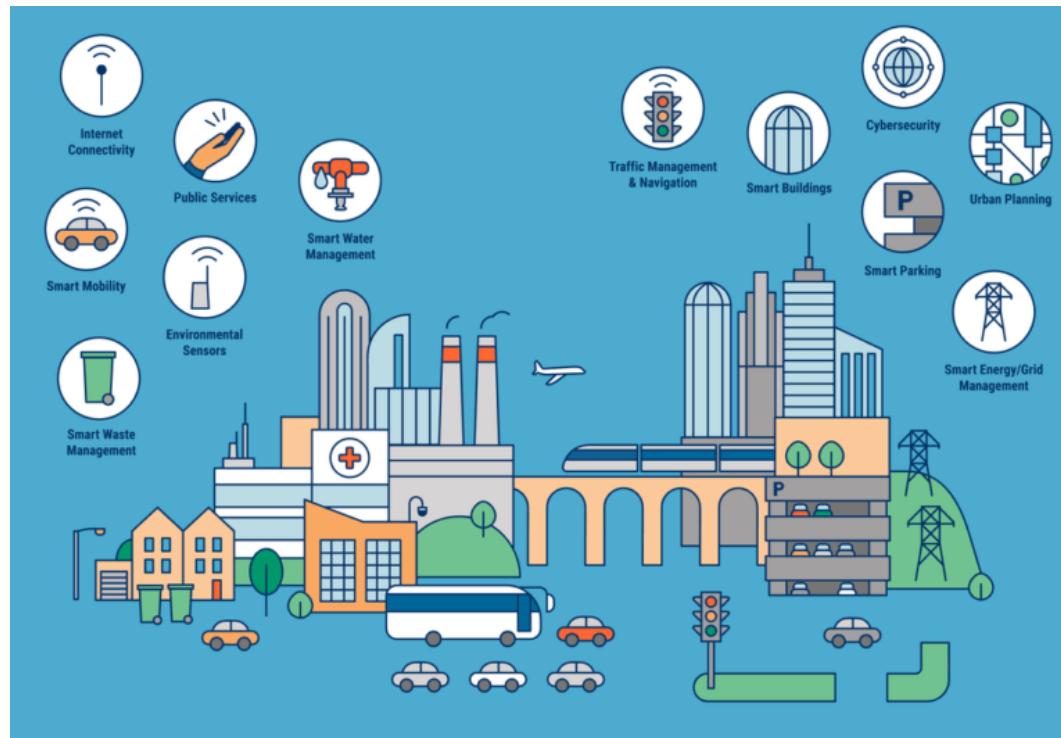
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INFORMATION INFRASTRUCTURE OF SMART CITIES, EXPERIENCES FROM NOVI SAD

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- *The urban environment, where the acquisition of data related to citizens, their assets and infrastructure of living and coexistence is made possible, is today viewed as a "Smart City" context model.*



When looking at the characteristics of smart city, we can consider the following aspects:

- *Smart economy*
- *Smart mobility*
- *Smart environment*
- *Smart people*
- *A smart lifestyle*
- *Smart risk management*



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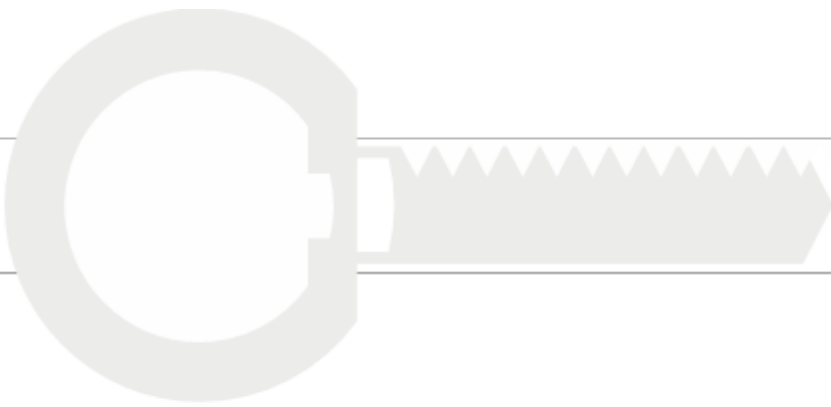


- *"Smart City" context model includes data collected from citizens, devices and property that is processed and analyzed to monitor and manage traffic and transportation systems, power plants, water supply networks, police, information systems, schools, hospitals and the like.*
- *Particularly emphasized is the integral risk management, both in the case of the realization of an individual risk and in a multi-standard context.*

- *Expert and decision support systems in the area of SMART CITY depend on multidimensional spatial and spatial based data.*
- *Data sources are heterogeneous and often anachronistic.*
- *Data formats are based on different standards: ISO, OGC, Industrial, National, Traditional, Informally , or even there is no standards or arrangements.*

- *Spatio-temporal review of data is required.*
- *If we bring relevant data it to the context at the right time, data becomes information.*
- *In this case, decision-making and management can occur.*





The infrastructure to support this concept should include:

- *Mass variable acquisition systems for environmental variables.*
- *Mass variable infrastructure of environment variables.*
- *Definition Data structure for working with environment variables.*
- *Extract and understand sets of objects of interest, described by the acquired environment variables.*

Information Infrastructure of Smart Cities is particularly interesting in the aspect of integrated risk management. This is the scenario we are interested in:

- An event with catastrophic consequences occurred (real time or off line).*
- The person in charge of integrated incident management should have "everything needed to make decision".*
- What needs to be provided, in terms of the functionality of a service oriented information system.*
- The chosen methodology should be based on standards.*
- Situations of interest to be viewed in 2D and 3D space, and be processed services characteristic of 2D, 3D and temporal data.*
- Implementation to follow the relevant directives on a real space-time system.*



The basic features of IoT systems are:

- *Everything communicates: smart things have the ability to communicate wirelessly between themselves and between interconnected objects within an ad-hoc network;*
- *Everything is identified: smart things are identified by a digital name;*
- *Everything reacts: smart things can interact with the local environment through readings and activations of existing opportunities.*



WAHASTRAT system specification:

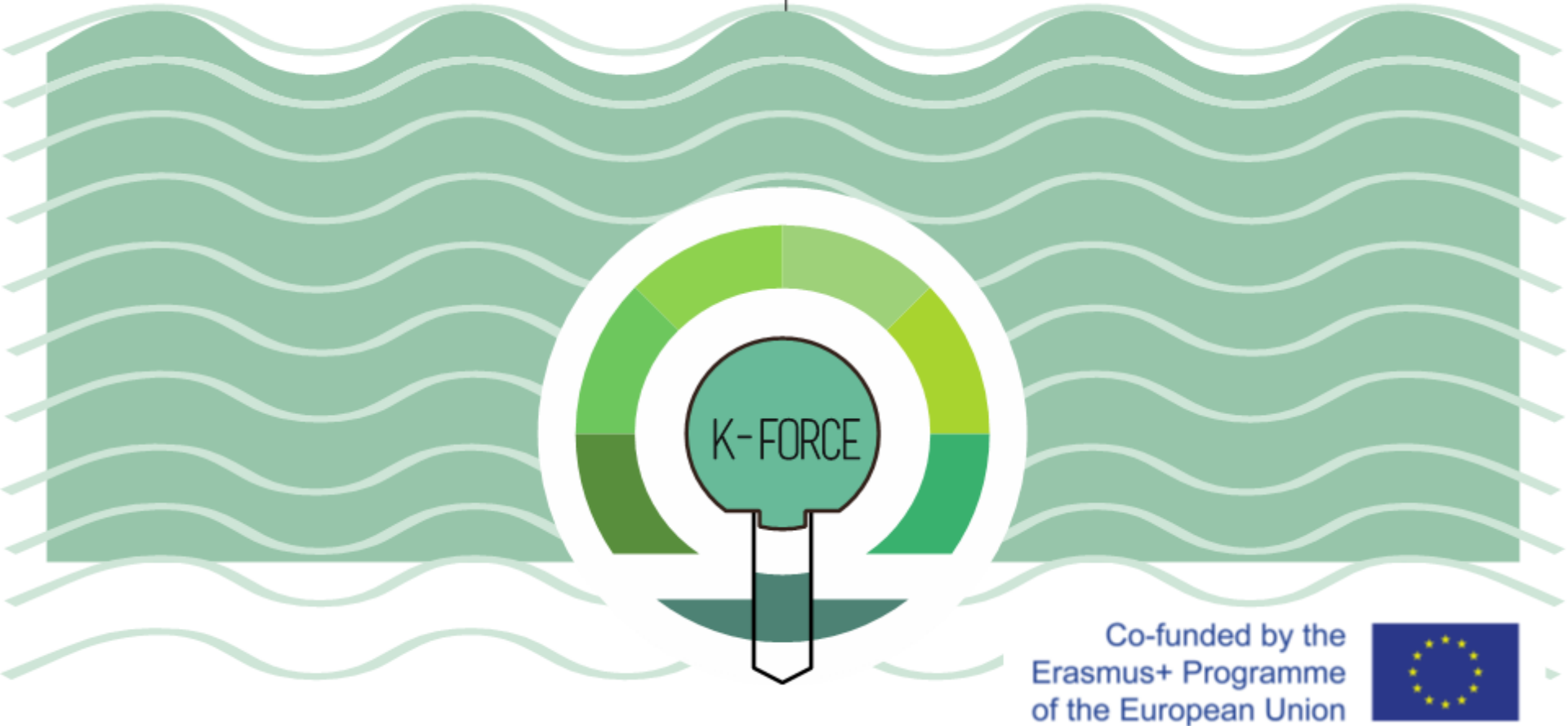
- *Decagon EC-5 sensor for volumetric water content determination*
- *Davis sensors*
- *Solar power*
- *Non-maintenance battery – can supply the station for 30 days when there is little or no sunlight*
- *GSM modem*
- *Communication between the station and the server is done via HTTP protocol*
- *Microsoft SQL database*
- *The application exports the data to a Microsoft excel document*



CONCLUSION

- *The goal of smart cities is to unite the spirit and wit of those who live in it and make it a place to live happy and satisfied citizens.*
- *The Internet of Things makes the city a source, consumer and also a provider of information.*
- *With the expansion and growth of cities, making them smart has become crucial to increasing the quality of life for citizens.*





Thank you
for your attention

Contact info about the presenter:

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