❑Designing and Evaluating the Smart City Information Services Development process

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❑Problem and Motivation

- Growing urban population
- Developments in the Information & Communication Technology (ICT)
- ICT complexities of future cities must be managed – Enterprise Architecture as a way to achieve this.

❑Related work

- The Open Group, 2011. *The Open Group Architecture Framework (TOGAF) v9.1*
- International Standartization Organization, 2007. *ISO/IEC 42010:2007 - Systems and software engineering -- Recommended practice for architectural description of software-intensive systems*
- Hevner, A.R., 2007. *A three cycle view of design science research*. Scandinavian journal of information systems, 19(2), p.4.

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❑Research Methodology

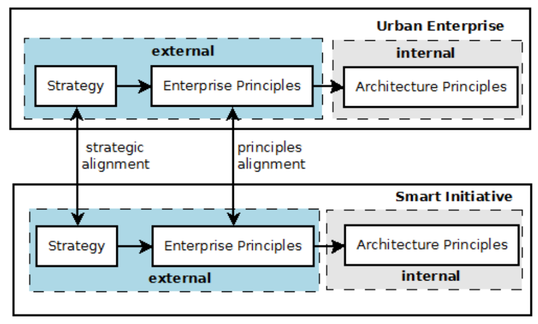
Design Science Research (DSR) – applying academic knowledge to the to solve practical problems, and contributing the results back to the knowledge base.

❑First Results

- **Urban Enterprise Components** – preliminary literature review shows the importance of architecture in a Smart City context.

Enterprise Concerns	Why	What	How
Urban Enterprise Components	Purpose Scope Goals	Stakeholders Frameworks Systems	Principles Methodologies **Architecture**

Urban Enterprise Components



Urban Enterprise Principles Development

- **Urban Enterprise Principles Development** – the concept of developing and aligning the strategic goals, enterprise and architecture principles in a Smart City.

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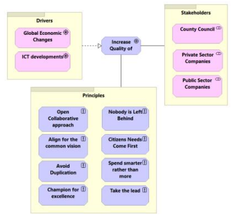
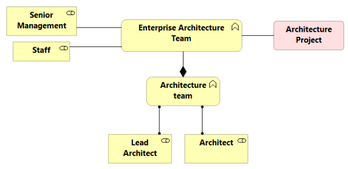
❑Practical test case city

Application of Enterprise Architecture methods to the Smart City Environment requires planning and modelling.



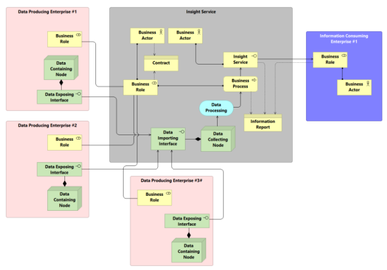
Goals/Principles/Stakeholder Interaction



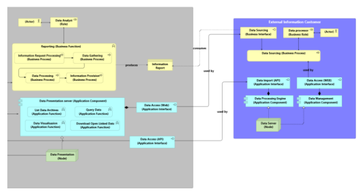
Architecture Team interactions

❑Development Process

Designing the Architecture Development Process for the development of Smart City Information Services



Data Service concept modelling



Information Service modelling

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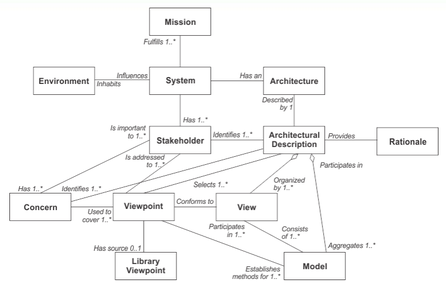
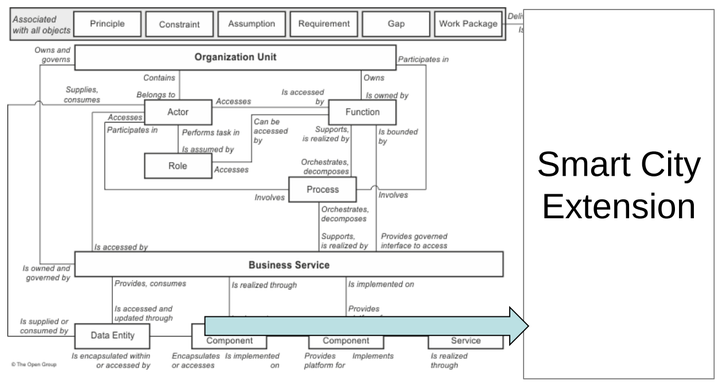
❑Future work

Relying on the core architectural concepts to identify the building blocks within a Smart City environment.

Propose an extension of TOGAF content meta-model through identification and modelling of various Smart City architectural elements.



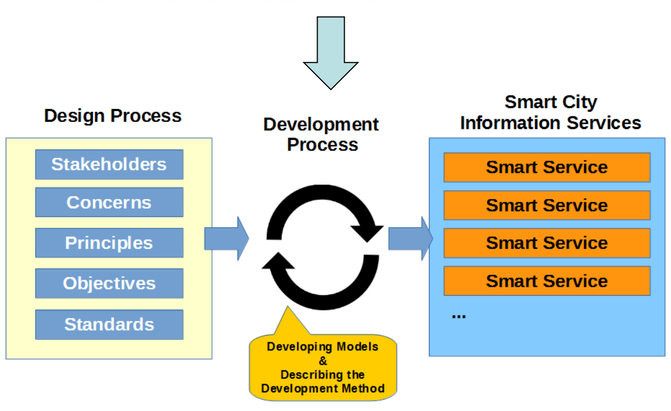
Basic Architectural Concepts Source ISO 42010:2007



TOGAF Content Metamodel **Extension**

Smart City Extension

❑Development Process



❑Publications

- Mamkaitis, A., Bezbradica, M., Helfert, M., 2016. *Urban Enterprise: a review of Smart City frameworks from an Enterprise Architecture perspective*. IEEE Second International Smart Cities Conference (ISC2 2016).
- Mamkaitis, A., Bezbradica, M., Helfert, M., 2016. *Urban Enterprise Principles development approach: a case from a European City*. AIS Pre-ICIS Workshop on IoT & Smart City Challenges and Applications.

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