An ArchiMate Extension for Modelling the Alignment of Services and Information in Smart City Architectures

1 Motivation and Objectives

- Traditional business-IT alignment approaches do not consider the specific concepts of smart cities to align services and information. This causes that city services do not meet the citizens’ needs.

Objectives

- Identifying the principles to address the alignment
- Extending the ArchiMate language to model the specifics of smart cities in order to ensure the alignment
- Providing results of the application and evaluation of the proposed ArchiMate extension

2 Findings

- A review of smart city architecture frameworks based on the architectural concepts of TOGAF metamodel
- A requirements framework for the design of smart city reference architectures
- Design of architectural diagrams of smart city services for Limerick City & County Council

- Identification of the design principles for addressing the alignment

3 Methodology and Evaluation

- This research follows Design Science Research methodology (DSR). Limerick City & County Council is a case study used to explore and identify the connection between the service and information layers

Architectural Standards

- Apply Enterprise Architecture (EA) approach to align and integrate strategy, people, services, and information
- Include aspects from Architecture standards such as IEEE (1471) and ISO/IEC (42010)

4 Future Work

- Applying and evaluating the proposed extension of ArchiMate based on the defined design principles to ensure the alignment

References

- Pourzolfaghar, Z., Helfert, M., Bastidas, V. and Khalijatfarabad, A., (2017), December. Proposing an access gate to facilitate knowledge exchange for smart city services. In Big Data (Big Data), 2017 IEEE International Conference on (pp. 4117-4122). IEEE.