

Knowledge-Centric Platform for Architecting Alternative Business Models

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Pressing global sustainability issues such as urban sprawling and congestion, social inclusion, energy and pollution concerns, will likely lead soon to radical transformations. There is a certain consensus about a vision that a digital connected world should enable sharing of resources, better collaboration and integration between humans, products, services and infrastructures. Whereas needs for mobility should all in all remain if not increase, transformations affecting cars and transportation vehicles may depend on the variety of territories according to their type, legacy, sociology and environment. The question of how automotive industry and other industries players will move their business in these transformations is at stake, probably less product centric but more service oriented, collaborative and tailored to a geographical area.

Over the past 3 years, we've been investigating a knowledge-centric and model-driven methodology and tooling able to script and analyze these transformations. First, the idea is to model the complexity for a given geographical area, striving to describe and understand how territorial issues are interwoven with economic relationships and systems interacting with humans. Then, from this model, transformation scenarios based on products and services innovations are designed and assessed, respecting territorial requirements and human preferences, changing business models and technical behaviors. Outcomes for economical entities would be the business models of new service/product offers and related technical requirements.

Since these transformations will rely on unusual co-creations between private companies, public bodies and local communities, our platform intends to share, gather and manage knowledge for various users and disciplines, and thus enhance collaboration. To this aim, we have layered the modelling activity into:

- Societal/territorial level modelling and structuring societal key expectations
- Economical level modelling business relations, customers and communities, services network, financial flows
- Operational Systems level describing products and systems including infrastructures and their behaviors
- With vertical connection between the objects of the 3 levels (e.g. systems provide functions that may be operated through services. Those services, will be operated by economical entities, appreciated by users...)

First returns on experience we have at Renault with projects both in mobility and electricity domains prompt us to move forward.

References:

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