



**BUSINESS-ECO-SYSTEM MODELING FOR HELSINKI'S
NEW SMART & CLEAN DISTRICT ÖSTERSUNDOM**

Business-Eco-System Modeling

SIEMENS

At a glance

Digitization and urbanization are key trends that change the way citizens work and live, where

- new forms of housing and accommodation change the way people live,
- the sharing economy affects private and business life alike, as new attitudes towards ownership, collaboration and consumption arise,
- moreover, the dash towards circular economy alters citizens expectation towards localized use and refinement of resources.

So what does this mean for Urban Infrastructure?

It changes the expectations and requirements of infrastructure services. However, it does not change their necessity. Community economic, social and environmental development and the availability of safe, reliable energy and value-added energy services are inextricably linked. Without an adequate and predictable supply of energy and related services, the community cannot respond to the demands of changing residential, commercial and industrial customer needs in a way that will enable their growth and evolution.

The challenge

The City of Helsinki is setting out to developing the area of Östersundom as a green-field project. Östersundom shall become a “Smart & Clean” new district of Helsinki City, serving as a testbed for innovative projects and as center for companies and as an attractive place to live and develop local business, sparking economic impulse beyond the district for the wider Helsinki area. In this context a “Bio-Integrate” of interested stakeholders has come together to support the formation and profiling of the new district. Focus areas for the bio-economy that shall see rise in Östersundom are Food, Fiber and Energy.

Our solution

Siemens provided its Business Eco-System Modeling approach, in order to set a frame and to establish the development basis for the future definition of interrelated Business Models for key stakeholders. This approach enables the later realization of executable Business Models. At the same time the approach allows to validate design paradigms, such as “circular economy” and identifies potential value gaps. The ultimate objective is to endorse the prosperity of bio-economy activities asset out by the City's vision for Östersundom Smart & Clean District.

Key questions addressed

- How to enable co-creation of innovative business models in a greenfield district?
- How to optimally unlock the value creation potential of infrastructure, overcoming the diffused benefits problem?
- How to optimize value streams?
- How to jointly attract investors and entrepreneurs?

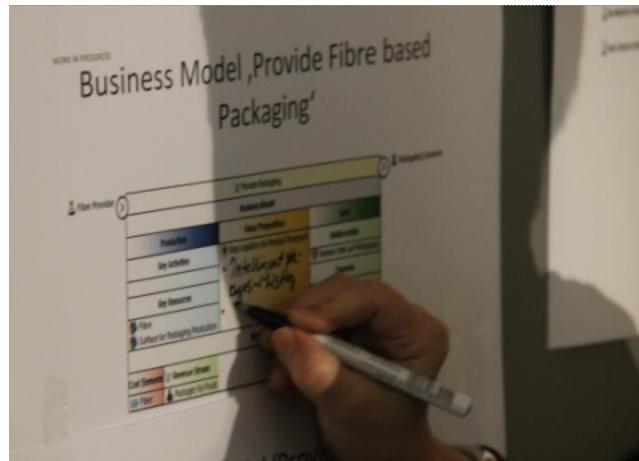


Figure 1: Business Model refinement during workshop

Business Eco-System Modeling for Infrastructure Development

Communities exist within a wider business ecosystem, and a business ecosystem exists within the community itself. Like a natural ecosystem, individual entities within the ecosystem exchange energy and other 'value currencies' amongst themselves in an effort to remain viable, to grow, and to prosper. Not every organization within the business ecosystem directly interacts with all other organizations; however two of the most significant characteristics of all organizations are that they exist within the same community and they use energy as an input to the creation of value. Hence, the return to the initial roots and purpose of energy infrastructure, as an enabler for all modern economic activity:

Siemens Model captures the economic activities and relations of the Business Eco-System, displaying the complexity of relations and perspectives.

The most atomic view is an individual Business Model and its components. The broadest view shows the entire Eco-System Network and its multi-dimensional interconnections. Also, the model allows to define system boundaries for the economic activities that can be re-defined if necessary. Hence, the Eco-System Model approach describes, analyzes and also allows to optimize Business eco-systems.

- It allows to cope with the complexity inherent to the system.
- The Meta-model creates a common language that helps – cross domain – to establish agreements on transactions prior to investment decisions. This allows to capture value and potentially optimize the eco-system in specific areas or in its entirety.

For Östersund's Smart & Clean district the bio-integrate Siemens has

- created an integrated Business Eco-System Overview (cf. Figure and Figure)

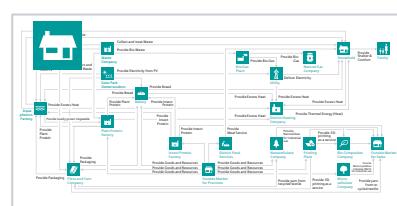


Figure 2: Eco-System Overview

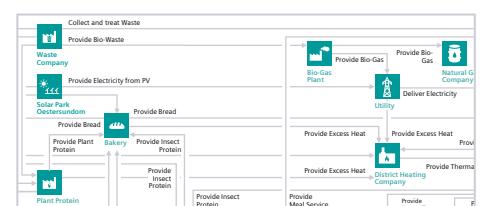


Figure 3: Eco-System Zoom-In

Testimonials from Business-Eco-System
Workshop Participants:

**"Now we see some links
between the entities, it
starts to look like business"**

**"Who will buy all these
products, is there market?"**

**"... – here we really see the
linkage between entities
now"**

**"This is more than a start,
excellent basis to continue."**

- Validated the New Smart & Clean District Design Paradigms for its effectiveness on the economic development goals.
- Facilitated a “community hackathon” of interested stakeholders with more than 100 invited participants, representing start-up companies, incumbent industry and city planning departments. The participants had to challenge the validity of initially defined business models and value proposition. Additionally, co-creation of the interconnected eco-system community was initialized.
- More than 25 interrelated Business Models were identified and extended, connecting the business focus areas energy, food and fiber.
- Derived the Value Chain Network to later determine the implementation road map, ensuring infrastructure supports the business needs most effectively.

Conclusion

The Bio-Integrate's key question for the new Smart & Clean district is to maximize local value generation while minimizing the outflow of investment resources.

The Business Eco-System approach has created a common language for all the stakeholders and their diverse backgrounds.

Thus, it enables value-oriented decision making, overcoming single perspective silos. Ultimately, it shall enable a new rather groundbreaking approach to Community Decision Making, ensuring energy infrastructure will create value for the individual actor but also and foremost for the society.

Finally, transparency has been created on the value gaps of the envisioned business eco-system. A clear understanding of the required next steps for effective continuation of the development is established for the decision makers of the City Planning Department.

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