

## Life City

Concept for Sustainable Urban Development

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# VTT あなたのビジネス にテクノロジーを



テクノロジー・イノベーションによる  
価値創造をめざす柔軟で経験豊富な  
パートナーをお探しであれば  
VTTとの提携をぜひご検討ください。

貴社が直面している課題を  
解決するためのソリューションを  
見出すお手伝いをいたします。

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# 未来のテクノロジー を見据えて

将来向き合うことになる課題は、今日におけるビジネスチャンスでもあります。われわれが今後直面するであろう環境的、社会的、および経済的問題の解決の鍵となるのは、以下の6点であるとVTTは考えています。これによってグローバルな問題に対処できるばかりでなく、新しいビジネスを生み出し発展することが期待されます。

- ・ バイオエコノミー
- ・ 低炭素およびスマートエネルギー
- ・ 人類すべての健康と幸福
- ・ 資源利用効率に優れた産業
- ・ クリーンな地球
- ・ デジタル情報社会





# 低炭素社会実現のための スマートエネルギー システム



# 地球にやさしい 水処理/廃棄物処理 ソリューション

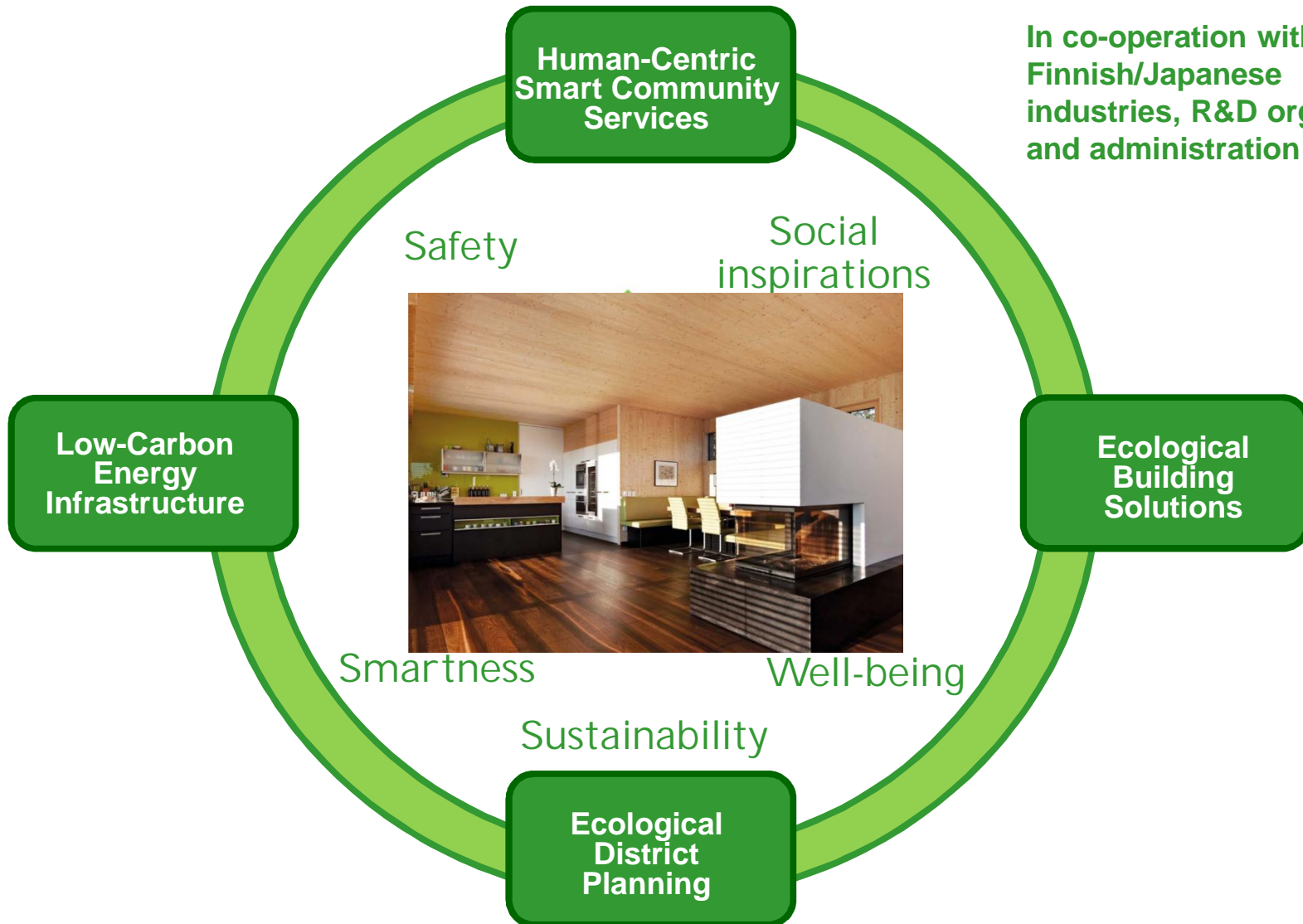


# VTT on map

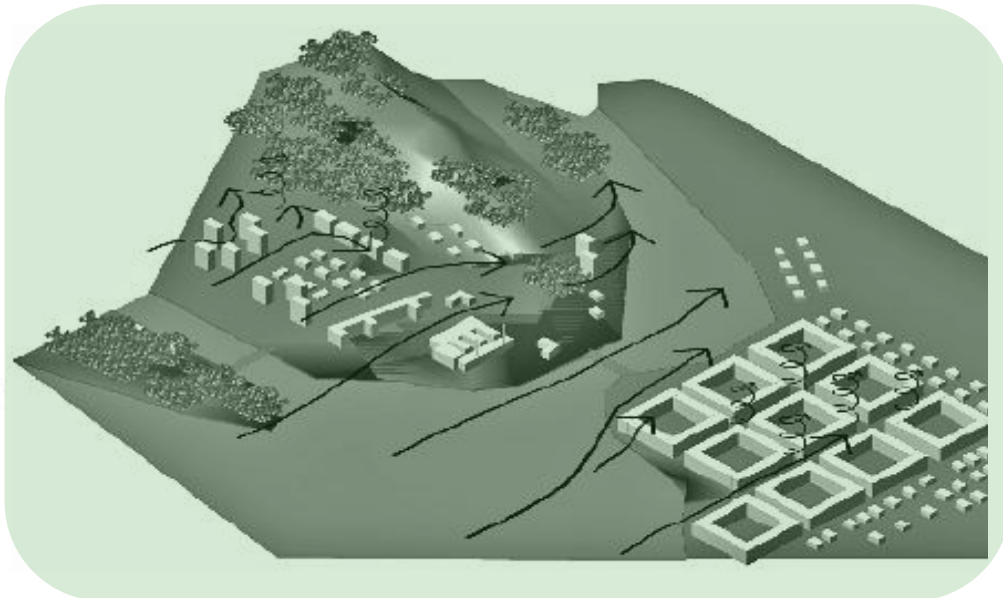




# Value Propositions of Life City Concept



## Elements of Life City Concept...



### Ecological District Planning

The main goals of bioclimatic planning are:

- Harmonize the needs of nature environment and human activities.
- Use the nature forces in a positive ways.
- Take pedestrian and public transport as the starting points of planning.
- Strengthen social community, and boost safety and health.
- Develop sustainable ways of using nature resources.
- Create a harmonious multi-functioning urban structure.
- Unify and harmonize the cityscape, and create a pleasant environment and a good micro-climate



- **Target setting** for Life City
- **Visualization and virtualization** of Life City
- **Guidance** for the design, construction and operation of the area
- **Quality assurance** for the life cycle commissioning process
- **Planning the involvement** of investors, companies and end-users with the development
- **Active dissemination** about the achievements in different forums



## ...Elements of Life City Concept...



### Ecological Building Solutions

- **Wooden architecture and construction**
- **Healthiness and excellent indoor environment**
- **Energy-efficiency**
- **Fire safety**
- **Standing earthquakes**
- **Wooden interiors**



Piloting of Finland - Home concepts:

- **Wooden/log houses and multi-storey buildings**
- **Senior housing and nursing homes**
- **Schools and kindergarten**
- **Office/commercial buildings**
- **Safe coastal construction.**

## ...Elements of Life City Concept...



### Low-Carbon Energy Infrastructure

- Multi-energy source smart energy network
- Resource efficiency and emission reduction
- Energy security and availability
- Energy balancing between demand and supply
- Safety and quality



Piloting of Smart Micro Energy Grid concept:

- Interconnected energy systems & storage
- Building/vehicle integration
- Reliable energy transmission and distribution networks
- Smart grid communication
- Management systems for smart grids

## ...Elements of Life City Concept



### Human-Centric Smart Community Services

- Governance and participation
- Life cycle of living
- Wellbeing and health (social care, mental well-being, mental health treatment)
- Community safety and smartness
- Learning and education
- Leisure and tourism
- Transport
- Job creation



Piloting smart community services:

- Social well-being services supported by IT solutions
- School solutions tied to community
- Security services in the event of natural disasters



# Framework for Realization of Life City Concept

## Ecological District Planning

- Target setting for Life City
- Visualization and virtualization of Life City
- Guidance for the design, construction and operation of the area
- Quality assurance for the life cycle commissioning process
- Planning the involvement of investors, companies and end-users with the development
- Active dissemination about the achievements in different forums

In co-operation with



- Finnish-Japanese research organizations
- City administration
- Finnish-Japanese city planners
- Representatives of Japanese end-users

## Ecological Building Solutions

Piloting of Finland - Home concepts

In co-operation with



- Finland – Home partners
- Japanese industry partners

## Low-Carbon Energy Infrastructure

Piloting of Smart Micro Energy Grid concept

In co-operation with



- Japanese energy company
- Finnish industry partners

## Human-Centric Smart Community Services

Piloting of services

In co-operation with



- Japanese stakeholders
- Finnish industry partners

# Framework for Realization of Life City

Smart & Eco

## Human-Centric Community Services

Industry group project piloting services

## Low-Carbon Energy Infrastructure

Industry group project piloting smart micro energy grid concept

## Ecological Building Solutions

Industry group project piloting stepwise individual wooden house concepts, building blocks,....

## Ecological District Planning

Neutral joint research project supporting pilot projects in parallel

## Major benefits for participants

### Research:

- Ecological District Planning

**Improved communication with Japanese stakeholders**

**Boosted channel to Japanese market**

**Specified and verified performance requirements for all levels of the realization**

### Piloting:

- Ecological Building Solutions
- Low-Carbon Energy Infrastructure
- Human-Centric Smart Community Services

**Value-creating solutions through product integration**

**Industrial partnering**

**Support for product certification**

**High-level of visibility**



## More Information:



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