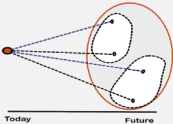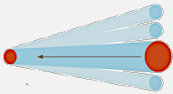# Future Mobility Business Models:

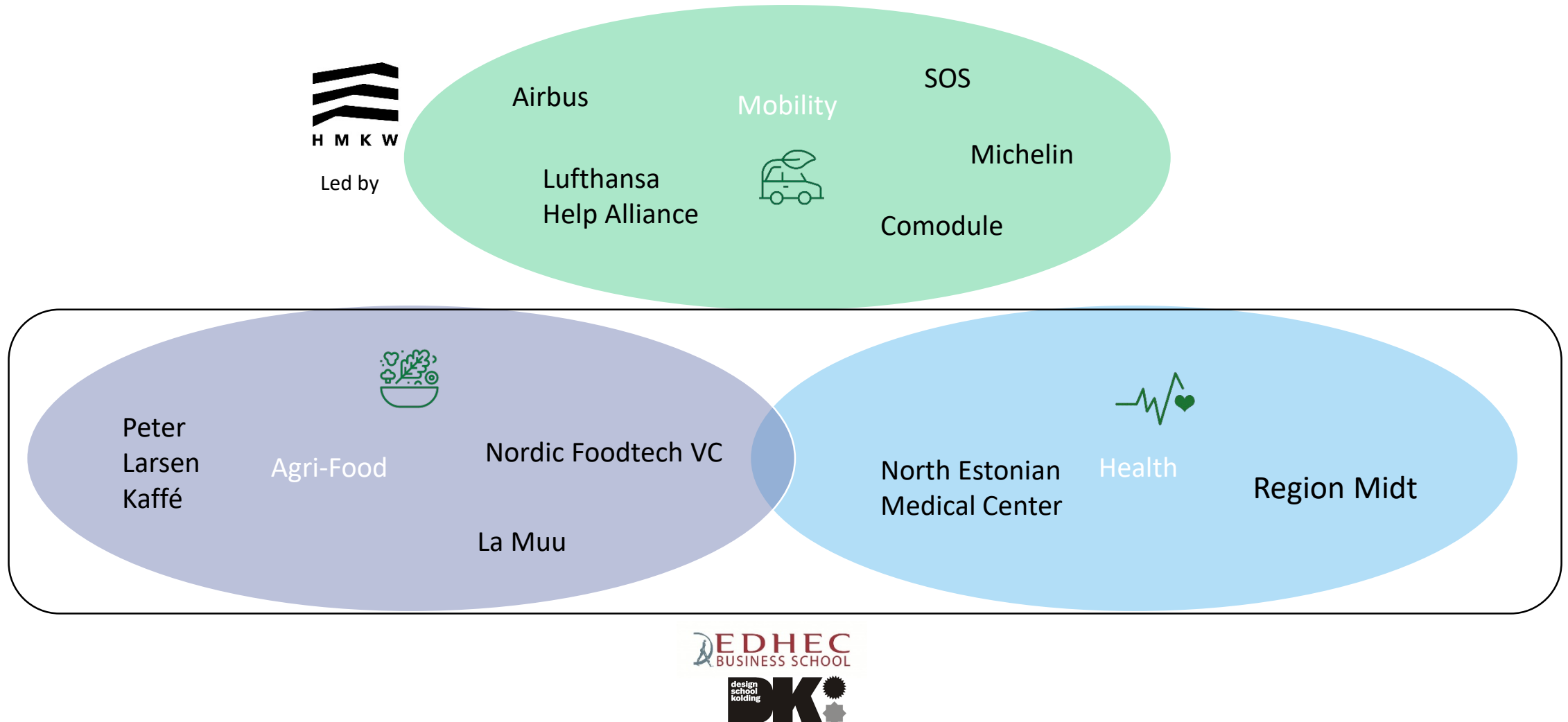## Co-Development of exploratory and normative scenarios

1st Public Conference on Strategic Foresight for Sustainability

Turku (Finland) on March 10th 2023, prepared and presented by Prof. Dr. Henning Breuer, HMKW Berlin

Motivation and Basic Approach / We initiated the SF4S project to address four challenges that we are dealing with in co-development projects.

	I. Industry needs for futures literacy and accessibility of foresight methods	How can we promote futures literacy in organisations and mainstream utilisation of foresight methods? **-> Co-development projects leveraging good practices**
	II. Neglect of values and normative future scenarios in innovation management	How can we facilitate adoption of normative scenarios to deal with innovation challenges? **-> Combination of exploratory and normative scenarios**
	III. Need to integrate currently distributed efforts to manage future scenarios, sustainability and innovation	How can we integrate scenario management, and innovation management to promote sustainable development? **-> Grand challenges across stakeholders & organisations**
	IV. Need to advance green, digital and foresight skills in higher education and professional development	How can we enhance green digital and foresight skills among students and innovation professionals? **-> Industry cases & new accessible methods for education & training**

Basic Approach / Together with our industry partners we defined grand challenges in three industries to be addressed in co-development projects.

HMKW
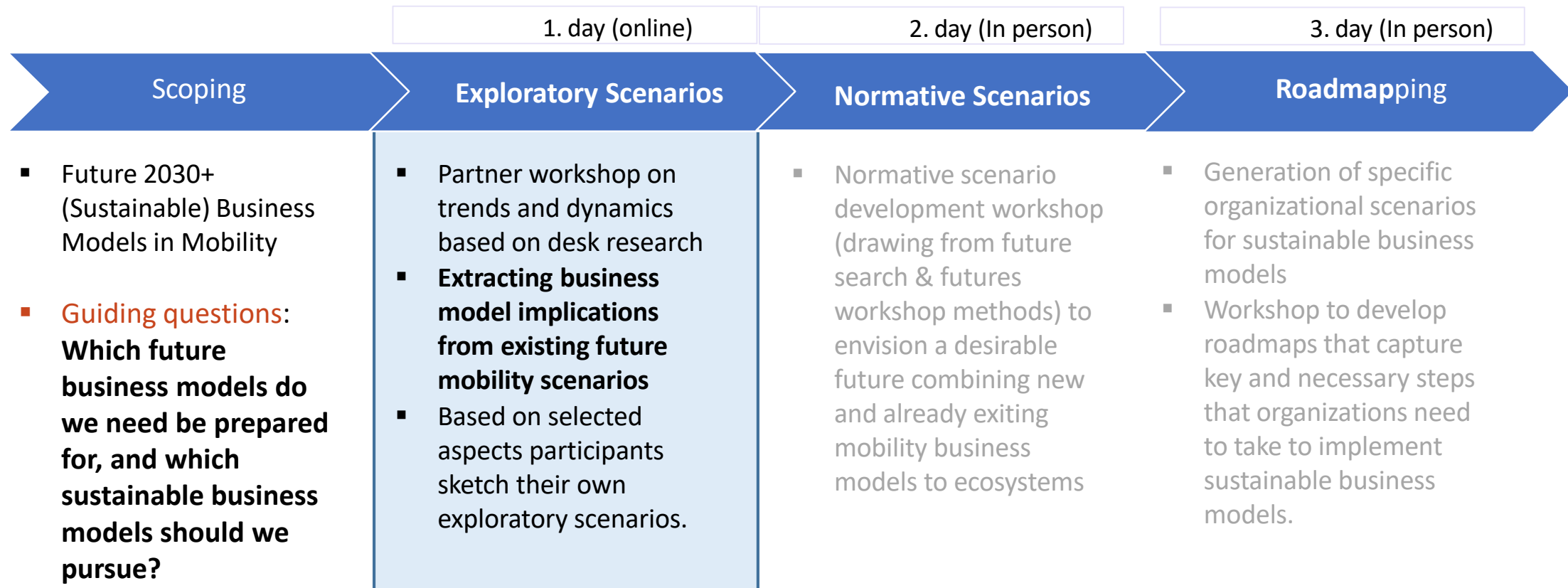
Led by

Mobility

Airbus

SOS

Lufthansa
Help Alliance

Michelin

Comodule

Agri-Food

Peter
Larsen
Kaffé

Nordic Foodtech VC

La Muu

Health

North Estonian
Medical Center
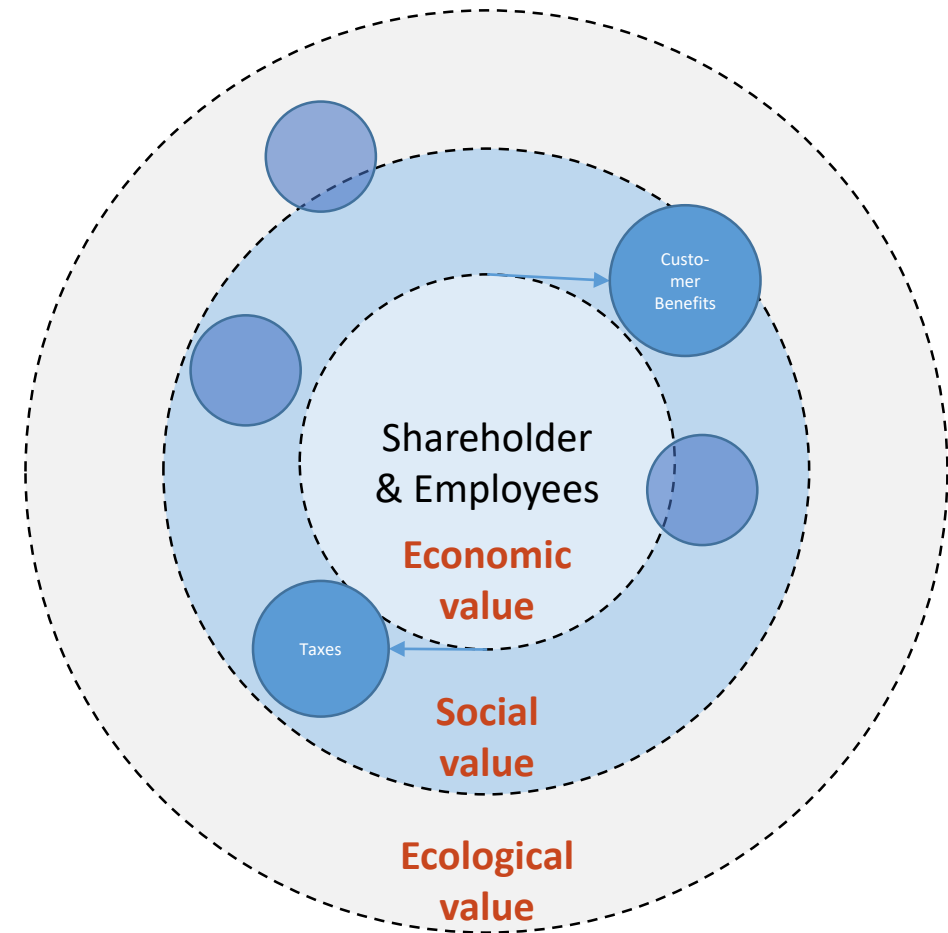
Region Midt

EDHEC BUSINESS SCHOOL

design school kolding
DK

Co-Development Approach in Mobility / Based on a review of business implications in future scenarios we envision new normative scenarios.

	1. day (online)	2. day (In person)	3. day (In person)
Scoping	**Exploratory Scenarios**	**Normative Scenarios**	**Roadmapping**

Scoping
- Future 2030+ (Sustainable) Business Models in Mobility

- Guiding questions:
Which future business models do we need be prepared for, and which sustainable business models should we pursue?

Exploratory Scenarios
- Partner workshop on trends and dynamics based on desk research
- **Extracting business model implications from existing future mobility scenarios**
- Based on selected aspects participants sketch their own exploratory scenarios.

Normative Scenarios
- Normative scenario development workshop (drawing from future search & futures workshop methods) to envision a desirable future combining new and already exiting mobility business models to ecosystems

Roadmapping
- Generation of specific organizational scenarios for sustainable business models
- Workshop to develop roadmaps that capture key and necessary steps that organizations need to take to implement sustainable business models.

Sustainable Business Models for Mobility / Understanding sustainable business models facilitates our review of exploratory future scenarios.

- A **sustainable business model** creates economic, social and ecological value.

- Its "rationale for value creation, delivery, and capture allows an organisation to contribute to solving sustainability challenges and to promoting sustainable development"*

Shareholder & Employees

Economic value

Social value

Ecological value

Custo-mer Benefits

Taxes

*Lüdeke-Freund, F., Breuer, H., Massa, L. (2022). Sustainable Business Model Design – 45 Patterns. Berlin: Self-Published.

Sustainable Business Models for Mobility / Understanding sustainable business models facilitates our review of exploratory future scenarios.

- A **sustainable business model** creates economic, social and ecological value.

- Several trends and developments turn sustainable business models as former niche phenomena into the new standard for future strategy.

- For instance, compliance with the **EU taxonomy** requires business activities to substantially contribute to at least one of the six EU environmental goals (climate protection, adaptation to climate change, water/marine protection, circular economy, environmental pollution and biodiversity/ecosystems), to do no significant harm with regards to the other goals, to fulfil social minimal standards.

Sustainable Business Models for Mobility / Some sustainable business model patterns are already widely adopted in the mobility industry.

4 Subscription

Inconsistent and unpredictable revenue streams can threaten a company's financial stability. This is even more critical for new players pursuing a sustainability mission. By charging customers a recurring fee, the Subscription pattern helps businesses generate reliable revenue streams and allows for more effective investment and risk management.

#modularpattern
#subscription
#recurringfee
#customeracquisition
#customerrelationships

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2 Social Freemium

Ecologically and socially superior offerings often face a lack of demand. Limited purchasing power of target groups, competitors' lower prices, and a lack of experience can lead to critical market barriers. The Social Freemium pattern helps in overcoming these barriers with free basic offerings.

#modularpattern
#pricing
#unbundling
#providingaccess

65
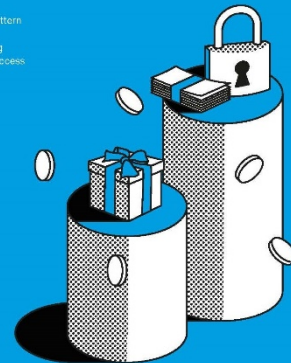
42 Use-Oriented Service

What if customers don't want to own new products? Even if they are more sustainable alternatives? Customers can use products without owning them, and benefit from services that make the product convenient and cost-efficient. Product-service providers are motivated to improve the ecological performance of their offerings to keep costs – and problems – low.

#prototypicalpattern
#servitisation
#productservicesystem
#leasing
#renting
#pooling

232
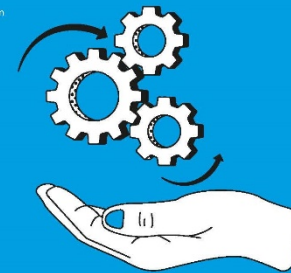
45 Sharing

Private product ownership results in direct risks, liabilities, and high costs for product users, as well as high levels of resource consumption. Sharing facilitates collaborative consumption by using a platform to match supply and demand. This creates new opportunities for customers to access a broader selection of higher quality goods and services at a lower expenditure of resources.

#overarchingpattern
#collaborativeconsumption
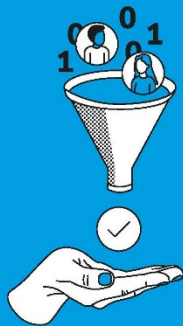#peertopeer
#excesscapacity
#digitalplatform

248

E.g. Monthly train ticket

E.g. Kids don't pay

E.g. Scooter rental
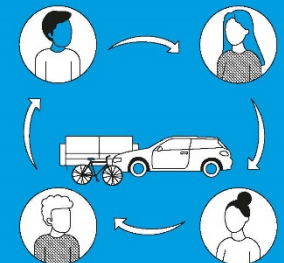
E.g. Boat sharing

Sustainable Business Models for Mobility / Others have recently been adopted or are still emerging.

28 Data for Social Good

The Data for Social Good pattern helps satisfy the needs of a social group with free offerings. At the same time, it allows earning revenues from a second, commercial target group. The free offering attracts users from the social group, who then become a 'data resource' benefitting the commercial target group. This pattern creates social impact while maintaining the company's financial independence.

#prototypicalpattern
#providingaccess
#crossfinancing
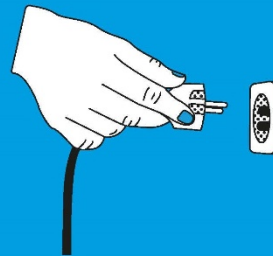#multisidedplatform
#nonpayingbeneficiaries

177

32 Last-Mile Grid Service

Extending grid services to low-income and remote 'last-mile' households can be a powerful source of social value creation. Reliable and secure supplies of such basic goods as power and water are crucial for socio-economic development. But connecting the last-mile means overcoming technological and economic obstacles, as well as customers' inability or unwillingness to pay.

#modularpattern
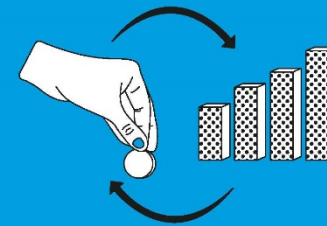#lowincomegroups
#inclusiveness
#awareness
#utilities

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40 Pay for Success

A project, service, or product addressing social or environmental challenges is at risk of achieving insufficient or even adverse outcomes. The Pay for Success pattern makes payment depend on meeting a predefined outcome. This motivates searching for a win-win solution for the various stakeholders involved and stimulates companies to adopt novel sustainable solutions to achieve the desired outcome.

#modularpattern
#riskmitigation
#goalalignment
#winwin
#innovation

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41 Product-Oriented Service

What can a company do if it has a new and more sustainable product, but its uptake in the market is missing traction because of actual or perceived disadvantages compared to unsustainable but established products? While adding services to products has been a common strategy for more than half a century, it holds some unused potential to boost the acceptance and diffusion of new and more sustainable products.

#prototypicalpattern
#servitisation
#productservicesystem
#customersupport
#advice

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E.g. Utilization of passengers data for energy efficiency

E.g. Last mile taxi service

E.g. Public contracts with footprint threshold

E.g. Over-the-air software updates for vehicles

# Sustainable Business Models for Mobility / Discussion on emerging new business models in mobility.

1. Are you already working with these Sustainable Business Model (SBM) Patterns? How?

2. Are you already working with other SBM Patterns?

3. Are you aware of other SBM patterns in the mobility industry?

*Further business models and patterns were brought up in the discussion, including **remanufacturing**, **refurbishing** and **repurposing** – some of which require new business ecosystems. Some participants stressed the importance of **B2B business models** also in mobility, others referred to the importance of changing customer expectations and mindsets affecting future value propositions. Also **awareness-raising incentives** (like discounts for customers wearing bicycle helmets) were mentioned together with the acknowledgement that actually more personal physical mobility should be promoted to protect health.*
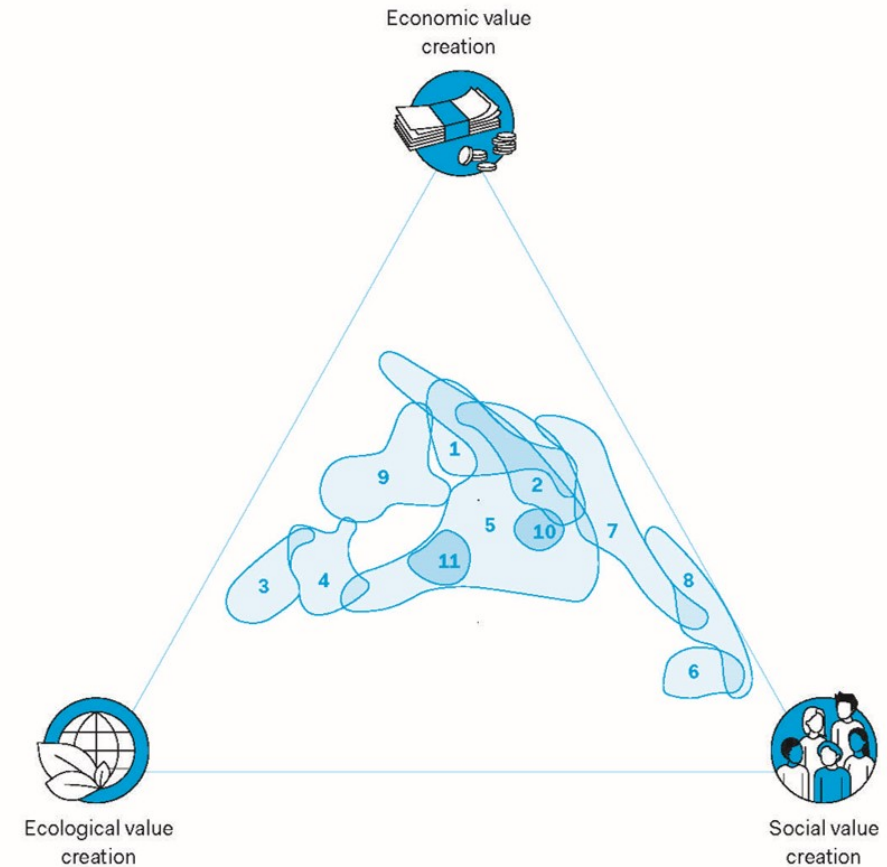
Sustainable Business Models for Mobility / Discussion on emerging new business models in mobility.

4. How could you adapt your business model if one of these future **scenarios** came true:

    a) Universal **green pricing** fees for intermodal mobility offerings (one ticket with prices depending on environmental impact)

    b) *"Pantopian"* internalisation of external costs into mobility pricing – in the scenario of this novel a strong artificial intelligence counts social and ecological costs into prices of all products and services, compensates resulting harm, and established a new world order based on UN Universal Declaration of Human Rights

    c) Inclusive mobility insurance (near-time provision of accessible and safe mobility even for handicapped or minorities)
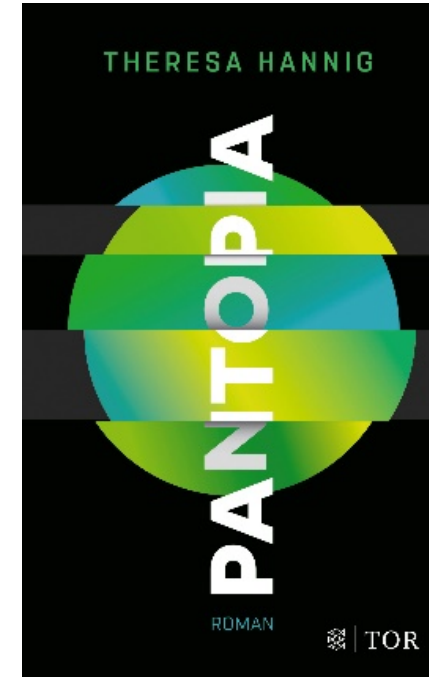
Universal AI-based
green and social pricing*

Thank you for your attention, your ideas and the discussion!

For further information please check the project website at www.sf4s-project.com, or contact h.breuer(a)hmkw.de