

Major projects

- Built environment and city
planning

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Example projects

1. Complementary construction in the district of Tammela



Aerial photograph, present Tammela

Tammela

- Central location in the heart of the city
- Old building stock. Mostly rebuilt during 1970's
- High energy consumption
- Low value of buildings, high land value
- Relatively low density (suburban type design)
- Ambitious eco-efficiency targets
 - Passive houses, car free living, renewables



Timeline - Tammela



Source: Architect Tiina Leppänen

VISIO

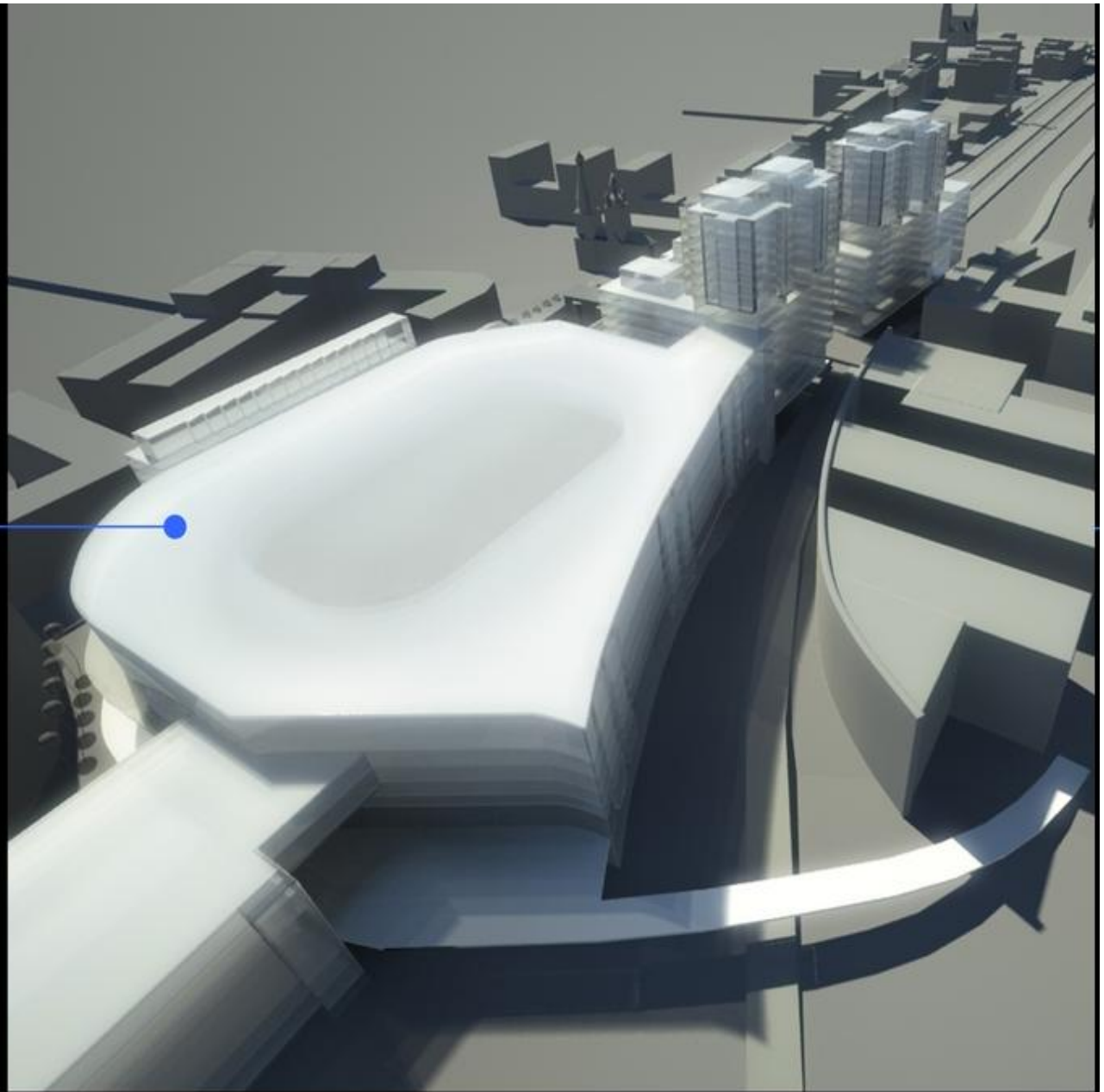
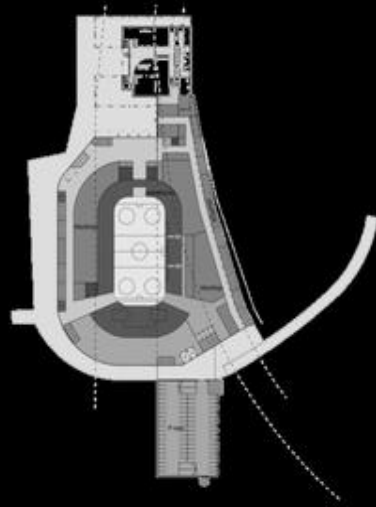


2. Tampere Central Arena

- Biggest single investment in Tampere region in the near future/past. Cost estimate 400 million €
- Multifunctional sportshall, Hotel, offices, restaurant world, apartments
- Focus on energy efficiency
- Target is the most energy efficient sports hall in the world!
- Ecoefficiency investigation is carried out by NCC optiplan and ECO2

TAMPEREEN

KESKUSAREENA



3. Eco-efficiency tool for urban planning

- Developed by City of Helsinki and VTT Technical Research Centre of Finland
- Tool is currently being tested in Tampere for Districts of Koukkujärvi and Peltolampi
- Evaluates overall ecological performance
- Easy to use, fast and scientifically reliable
- Based on existing systems (LEED, BREEAM, CASBEE)
 - Localised for Finnish environment and customs
 - And it's free/cheap to use after acquisition J

Definitions

$$\text{Eco-efficiency} = \frac{\text{Quality of life}}{\text{Harm to the environment} * \text{Resource use} * \text{Cost}}$$

Clean and healthy environment
High-quality durable products
Social acceptance

Increase these
(reward from
increased quality of
life)

Sustainable
development =

Emissions and environmental
damage
Energy and material consumption
Life cycle cost

Decrease these
(restrictions,
regulations,
incentives)

Indikaattoryhmä	Indikaattorin numero	Indikaattori	Pisteitys		Indikaattorin vaikutus	
			Min	Max		
MAA	1	maan käyttö rakentamiseen	95	105	+	1 %
	2	aluetehokkuus ja perusrakenteen määrä	65	135	++++	10 %
	3	maansiirrot	84	116	++	5 %
	4	pilaantuneet maat, kaatopaikat	90	110	++	3 %
	5	lähivirkistysalueet ja -viljely	84	116	++	5 %
	6	maaperän rakennettavuus	90	110	++	3 %
VESI	7	hulevesien hallinta ja pohjavedet	89	111	++	3 %
	8	tulvasuojelu	95	105	+	1 %
	9	vedenkulutus/asukas	96	104	+	1 %
ENERGIA	10	rakennusten energiankulutus	58	142	+++++	13 %
	11	sähköntuotanto	81	119	+++	6 %
	12	lämmöntuotanto	71	129	++++	9 %
	13	passiivisen aurinkoenergian huomiointi	93	107	+	2 %
	14	ulkovalaistus	98	102	+	1 %
LIIKENNE JA PALVELUT	15	joukkoliikenne	71	129	++++	9 %
	16	kävely ja pyöräily	71	129	++++	9 %
	17	henkilöauton käyttö ja pysäköinti	77	123	+++	7 %
	18	palveluiden sijainti ja toimintojen sekoittuminen	91	109	++	3 %
HIILI- JA MATERIAALI-KIERTO	19	rakentamisen hiilijälki	88	112	++	4 %
	20	jätehuolto	91	109	++	3 %
	21	olevan rakennuskannan hyödyntäminen	86	114	++	4 %

→ Land Use

→ Water

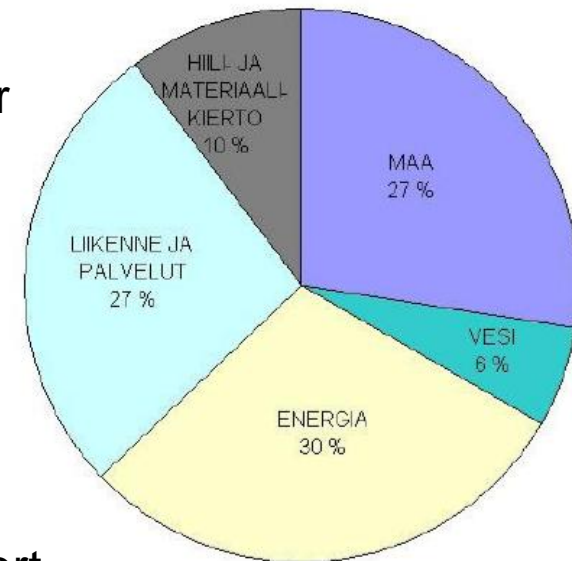
→ Energy

→ Transport and services

→ Carbon and material cycle

Indicators

- In Finnish, sorry..



Kiitos!

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