

# IFME - International Federation of Municipal Engineers Helsinki, Finland June

**INGENIUM Northern South Island Branch Meeting**  
**24 August 2012**  
**Ross Waugh**



# Finland

- 5.3M population, Helsinki – 1.3M population
- Finnish, Swedish and Russian Heritage
- EU, Euro, very homogenous society
- Get things done attitude to Engineering / Construction
- 8 weeks of summer, Mild winter -20C, Cold winter -30C



# Helsinki

- Compact city – World Design Capital 2012
- Unique Neo-Classical Russian Architecture in centre city
- Underground operations - climate dictates
- Excellent integrated public transport – train, trams, buses
- Separated cycleways, footpaths, roads





# Suomenlinna – Sea Fortress

- 1748 Swedish Construction starts across 7 islands – biggest building site in Europe – creates Helsinki (previously a small fishing village)
- 1808 Surrenders to Russians
- 1809 Finland becomes part of Russia
- 1991 UNESCO World Heritage Site



# City of Helsinki Operations Depot

- 40m deep below centre city
- Main Bus Depot, 3500 car parks, Major HT service lane all above at 25-30m deep
- Up to 1m snow overnight in winter





# IFME Conference Facts

- 430 Delegates from 27 countries
- 11 NZ, 22 Australian Delegates
- 72 Papers from 23 countries, 6 Streams
- 2 NZ papers – Geoff Marshall, PCC, RW
- Held at the Finlandia Hall, Helsinki
- Field trips to:
  - Tallinn, Estonia
  - Stockholm, Sweden



# Integrated Urban Planning

- Jatkasaari, Helsinki
- Kalasatama, Helsinki
- Royal Seaport, Stockholm
- Hagastaden, Stockholm

## Jatkasaari, Helsinki – Urban Life by the Open Sea

- Construction 2009-2025, 100ha, 19.8ha parks
- 16,000 residents, 6,000 jobs, 1.5km from city centre
- Waste - Automated Vacuum Collection





# Kalasadatama, Helsinki

- Construction 2009-2035, 177ha – old fishing harbour
- 18,000 residents, 12,000 jobs, 5km shore line
- Remove old power station, Centred around metro station



# Royal Seaport – World Class Sustainability

- 236ha, 2010 – 2025, 3.5km from city centre
- Remove/renovate old gas works – arts centre
- Urban environmental district, integrated public transport
- 10,000 homes, 30,000 work spaces
- One of Europe's largest urban development projects





# Royal Seaport – World Class Sustainability





# Hagastaden, Stockholm

- Stockholm Vision 2030 – 96ha
- Tunnels for E4/E20 and Rail
- 2010 – 2025, 5000 houses, 36,000 work spaces
- Karolinska University Hospital 2016





# Hagastaden, Stockholm



# Myllysilta (Mill Bridge) - Turku

- Turku Oldest, 3<sup>rd</sup> largest urban area - city pop. 300,000
- 93m long, 20m wide concrete box girder bridge built 1975 (built cheap with no central pier)
- 6 March 2010 both end piers fail – pack ice dislodged the foundations
- 1 metre sag in the bridge
- New bridge completed Sept 19, 2011(18 month construction), finishing work through to Nov 2011
- Won Finnish Municipal Engineering Achievement Award 2012



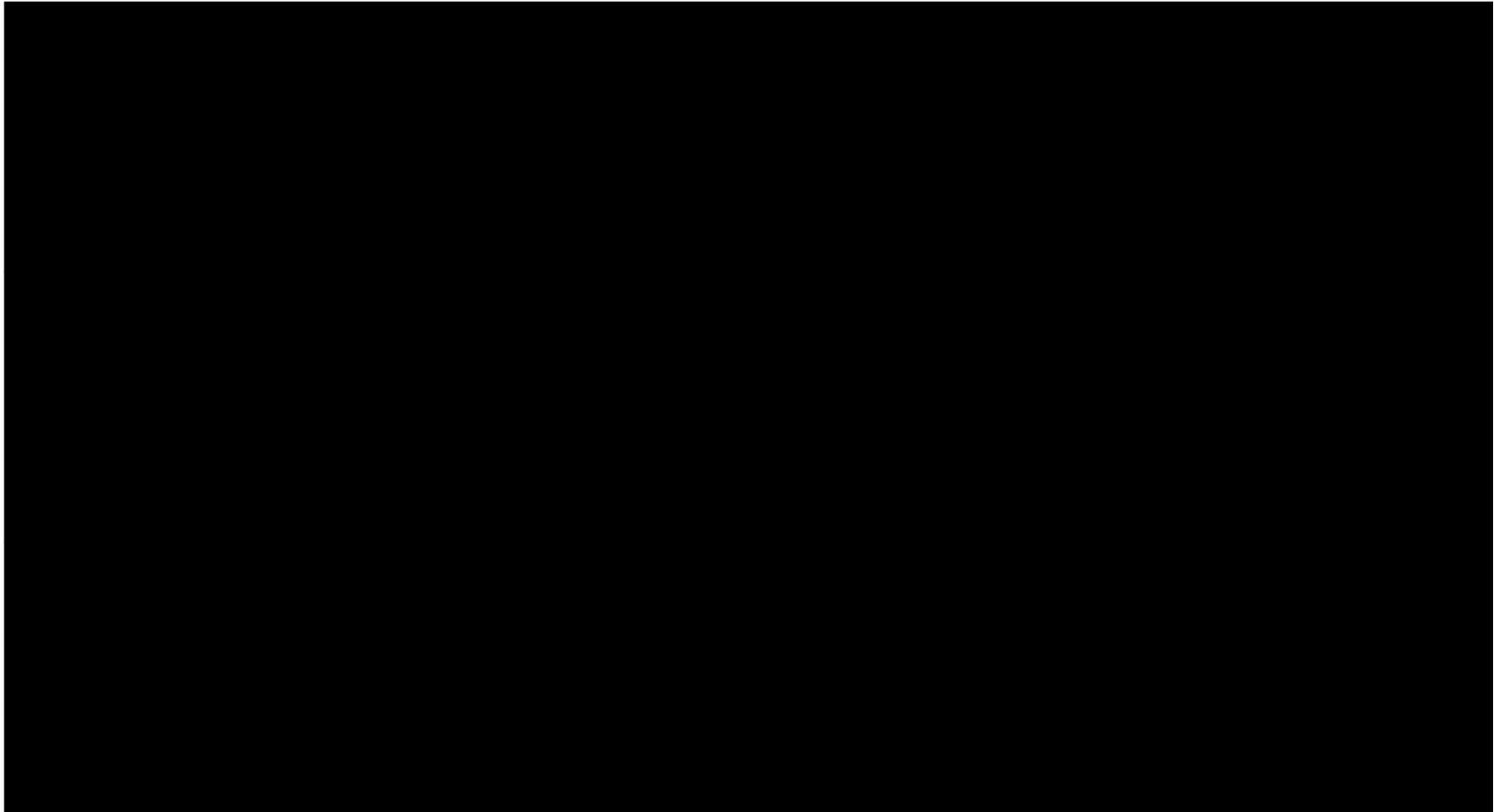


# Myllysilta (Mill Bridge) - Turku



Kuva: Olli Sulin

# **Myllysilta (Mill Bridge) - Video**

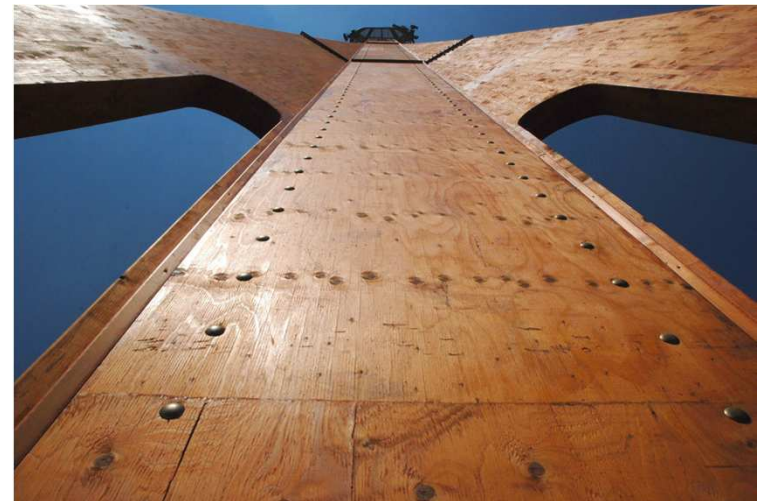


# EcoPol, Hungary

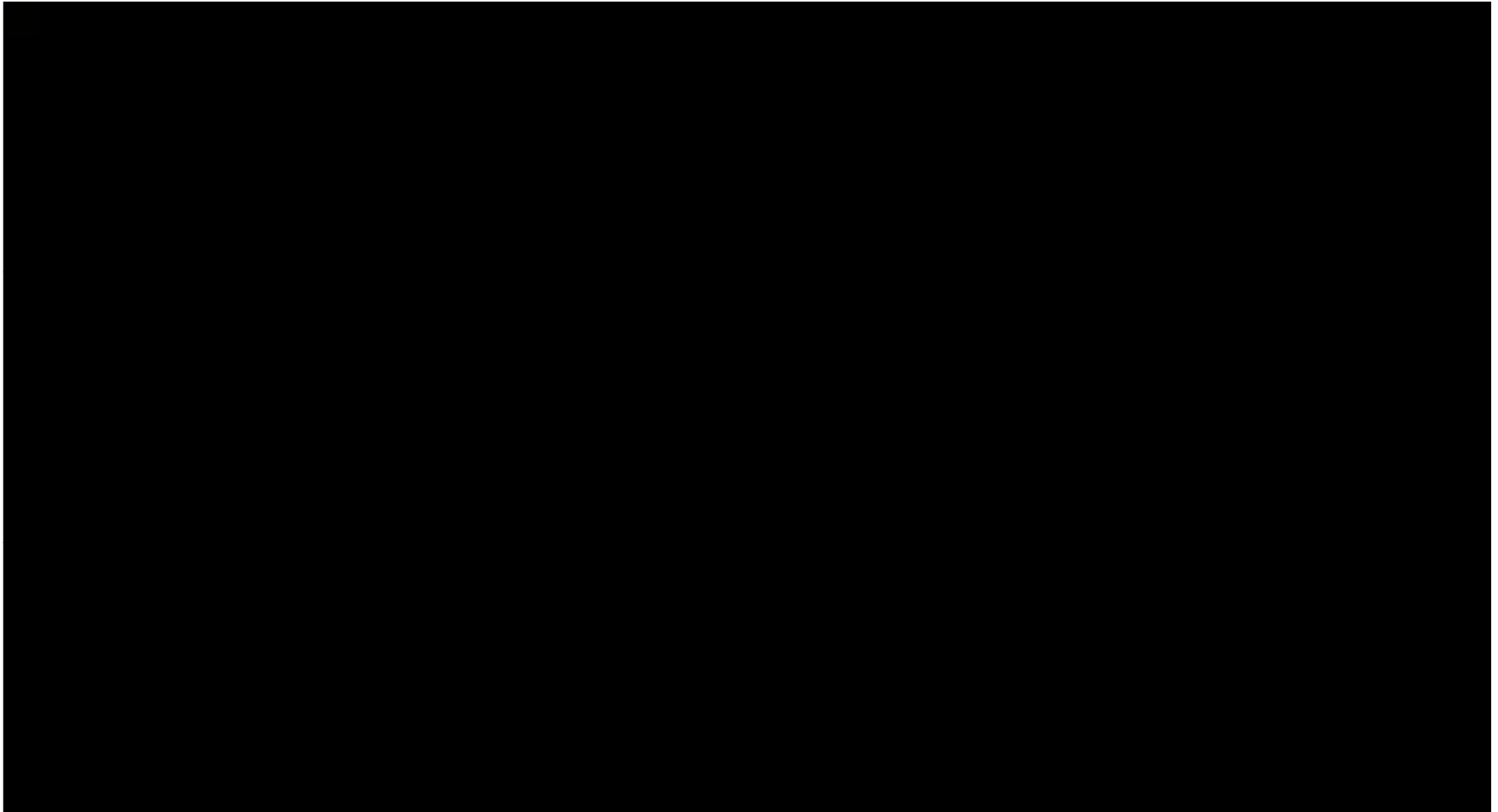
- [http://www.ecopol.hu/index\\_en.html](http://www.ecopol.hu/index_en.html)
- Glue Laminate Telecommunications Tower
- Triangular Section
- Easy to install
- Equipment separation – up to 3 providers
- Meets all EU requirements



# EcoPol, Hungary



# EcoPol Video



ideas | analysis | solutions



# IFME 2015, Rotorua

- <http://www.conferenceteam.co.nz/ingenium2015>

