



2013

# Radical design processes for systemic change

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**Suggested citation:**

Lurås, Sigrun and Nordby, Kjetil (2013) Radical design processes for systemic change. In: Relating Systems Thinking and Design 2013 Symposium Proceedings, 9-11 Oct 2013, Oslo, Norway. Available at <http://openresearch.ocadu.ca/id/eprint/2168/>

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# Radical design processes for systemic change

Sigrun Lurås & Kjetil Nordby

The Ulstein Bridge Concept

Ocean Industries Concept Lab

The Oslo School of Architecture and Design

# ULSTEIN BRIDGE VISION™ WINDOW ON THE FUTURE

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# The Ulstein Bridge Concept project

Duration 2011-2014 (Pre-study 2010)

## Goals

1. To develop a new ship bridge concept for advanced marine operations.
2. To put Ulstein in a front position in radical ship design.
3. To develop design centered knowledge and processes that are especially tailored for very complex activities in the ship building industries.

## Partners

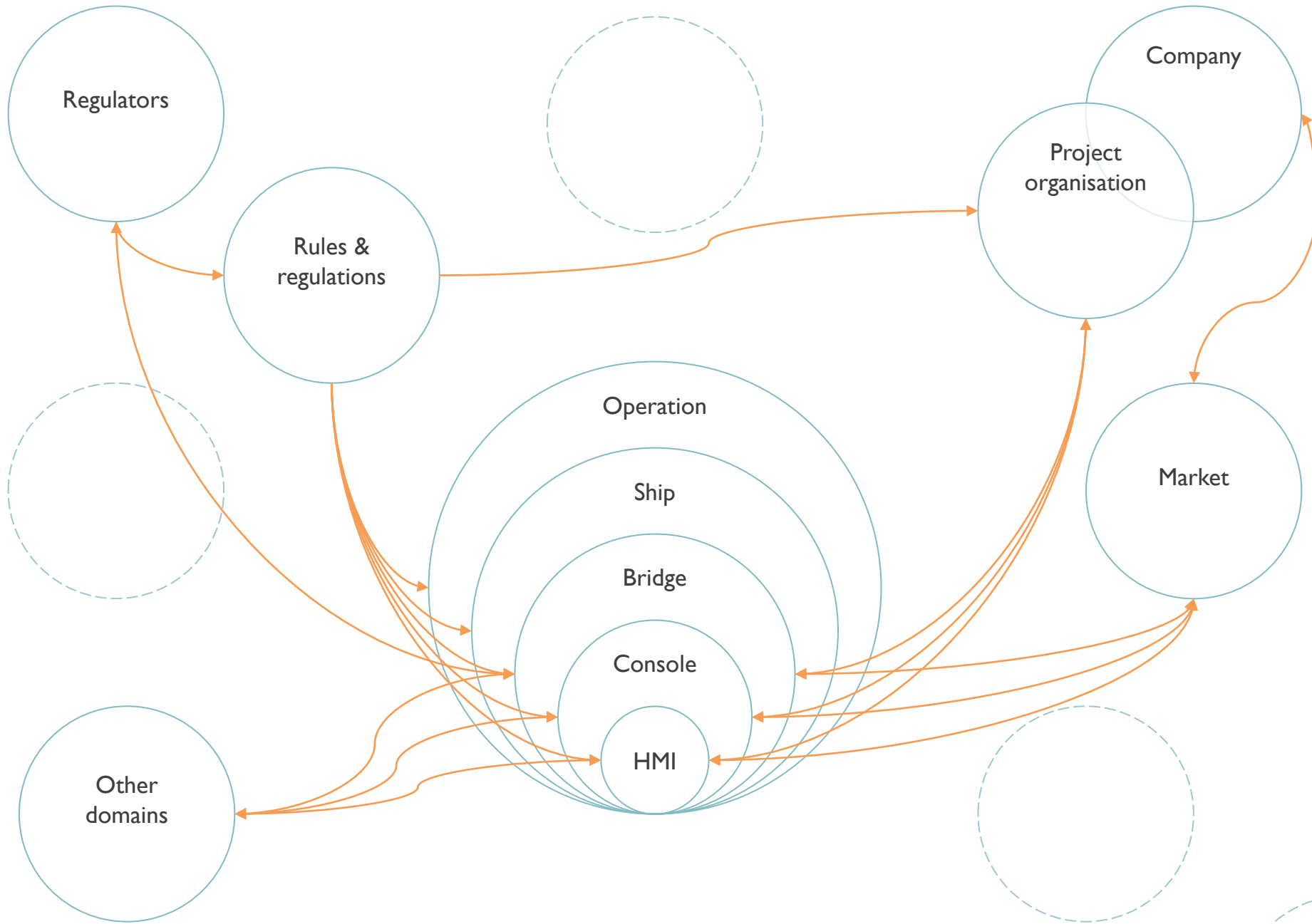
- The Oslo School of Architecture and Design (AHO)
- Ulstein Power and Control
- Høgskolen i Ålesund
- Kwant controls
- Technology partners in Germany, USA, the Netherlands, England and Slovenia

## Funding

- Pre-study: the Norwegian Design Council and the Ulstein Group.
- Main project: the Norwegian Research Council's MAROFF programme and the Ulstein Group.

# Overview of presentation

- Systems involved in ship bridge design
- 3 interventions for systemic change
- The interventions in relation to Meadows' places to intervene in a system
- Conclusions: Semi-open innovation processes for systemic change



How can we make  
radical innovations  
possible in these  
systems?

# 3 interventions

Presented by

- Objectives
- Target
- Strategy
- Means of presentation
- Results

1



2

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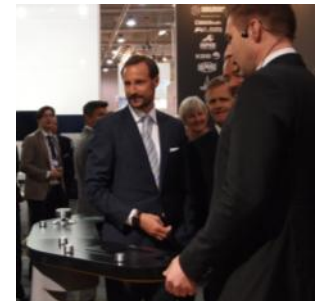
confronting energy paradoxes

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# The 1st intervention



# The 2nd intervention





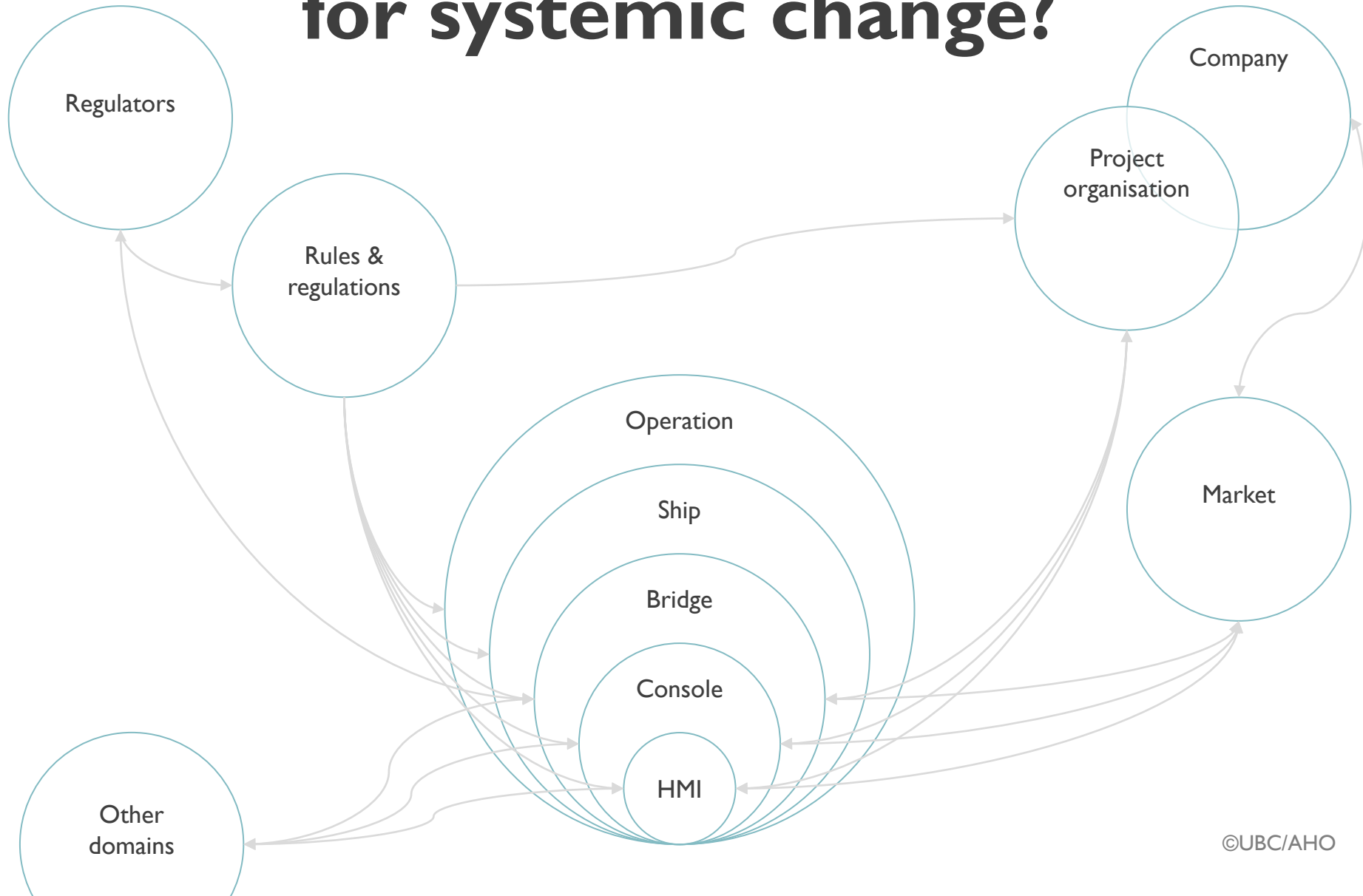
	1st intervention	2nd intervention	3rd intervention
<b>Target</b>	Internal Local (closed)	External Local & global (Internet)	External Local (targeted)
<b>Objectives</b>	Create interest internally Create commitment Establish a common goal for Ulstein and AHO	Create industry interest Communicate the project's ambitions Position Ulstein as an innovative company Attract partners	Create trust in that the vision is achievable Get committed partners
<b>Strategy</b>	One-way communication	One-way communication	Two-way communication
<b>Means of presentation</b>	3d visualisations and presentation	Professional film production Press conference with "buzz-makers"	Interactive demonstrator
<b>Results</b>	Commitment from Ulstein and AHO New design research project	Interest Innovation awards Further commitment New expectations	Positive feedback and additional interest Position as innovative actors in the offshore ship industry

# Places to intervene in a system

In increasing order of effectiveness (Meadows, 1998)

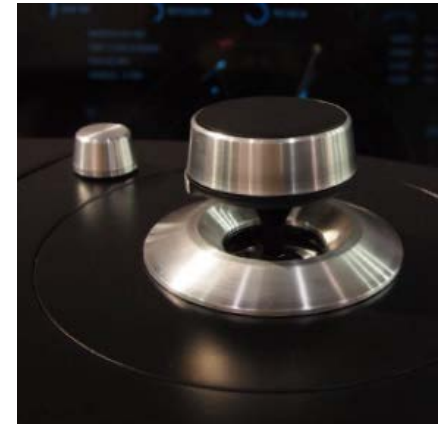
12. Constants, parameters, numbers
11. The sizes of buffers and other stabilizing stocks
- 10. The structure of material stocks and flows**
9. The length of delays
8. The strength of negative feedback loops
- 7. The gain around driving positive feedback loops**
- 6. The structure of information flows**
- 5. The rules of the system**
4. The power to add, change, evolve or self-organise system structure
- 3. The goals of the system**
2. The mindset or paradigm out of which the system arises
1. The power to transcend paradigms

# A semi-open innovation process for systemic change?





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