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Radical design processes for systemic change
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Suggested citation:

Radical design processes for systemic change

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The Ulstein Bridge Concept
Ocean Industries Concept Lab
The Oslo School of Architecture and Design
ULSTEIN BRIDGE VISION™
WINDOW ON THE FUTURE
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
The 1st intervention
The 2nd intervention
The 3rd intervention
<table>
<thead>
<tr>
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<th>1st intervention</th>
<th>2nd intervention</th>
<th>3rd intervention</th>
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<tbody>
<tr>
<td><strong>Target</strong></td>
<td>Internal</td>
<td>External</td>
<td>External</td>
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<td></td>
<td>Local (closed)</td>
<td>Local &amp; global (Internet)</td>
<td>Local (targeted)</td>
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<tr>
<td><strong>Objectives</strong></td>
<td>Create interest internally</td>
<td>Create industry interest</td>
<td>Create trust in that the vision is achievable</td>
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<td>Create commitment</td>
<td>Communicate the project’s ambitions</td>
<td>Get committed partners</td>
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<td></td>
<td>Establish a common goal for Ulstein and AHO</td>
<td>Position Ulstein as an innovative company</td>
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<td>Attract partners</td>
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<tr>
<td><strong>Strategy</strong></td>
<td>One-way communication</td>
<td>One-way communication</td>
<td>Two-way communication</td>
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<tr>
<td><strong>Means of presentation</strong></td>
<td>3d visualisations and presentation</td>
<td>Professional film production</td>
<td>Interactive demonstrator</td>
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<td>Press conference with &quot;buzz-makers&quot;</td>
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<td><strong>Results</strong></td>
<td>Commitment from Ulstein and AHO</td>
<td>Interest</td>
<td>Positive feedback and additional interest</td>
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<td>New design research project</td>
<td>Innovation awards</td>
<td>Position as innovative actors in the offshore ship industry</td>
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<td>Further commitment</td>
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<td>New expectations</td>
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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?
Radical design processes for systemic change

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