

Sustainability in Shipbuilding:

*-Miten kestävydestä ja toimitusketjun
läpinäkyvyydestä
saadaan kilpailuetua*

KAAPO M SEPPÄLÄ

UNIVERSITY OF TURKU, DEPARTMENT OF FUTURE TECHNOLOGIES

SUSTIS-Consortium briefly visited

- **Research Partners**


- [Future Technologies \(FT\) / Embedded Systems](#)
- [Centre for Collaborative Research \(CCR\)](#)
- [Finland Futures Research Centre \(FFRC\)](#)
- [VTT Technical Research Centre of Finland Ltd](#)

- **Industry and Supporting Partners**


- [DNV GL Business Assurance Finland Oy](#)
- [Evac Oy](#)
- [Lautex Oy](#)
- [Meriteollisuus ry](#)
- [Meyer Turku Oy](#)
- [NIT Naval Interior Team Oy](#)
- [Paattimaakarit Oy](#)
- [Piikkio Works Oy](#)
- [Sininen Polku Oy](#)
- [SSAB Europe Oy](#)

Background:

Shipping companies need to utilize the wider concept of sustainability in order to communicate a change in the way they are thinking.



To achieve this, the shipyard as a system integrator and its subcontracting network have to cover larger part of the value chain with sustainability and transparency.



Project focuses on collecting, combining and utilization of sustainability information of materials and manufacturing processes for creating sustainability based value in shipbuilding. The goal is to:

- 1) expand the use of sustainability to the whole life-cycle starting from raw materials
- 2) generate new business through opening the sustainability data.

SUSTIS->

Collecting sustainability based data

Forwarding sustainability within the chain

Generating new business on materials data

Value chain ->

Supplier network

- On-board
- Electrical
- Automation
- Paints
- Interiors
- Mechanical
- Steel
- Other materials



Shipyard

- Project responsibility
- System integration



Maritime operations

- Cargo shipping
- Security/defence
- Energy & resources
- **Mobility and leisure**

Cruise company

Travel agent

Consumer

Business opportunities

- More effective recycling, e.g. Shorting of materials
- Better offering in the life-cycle management and services

Benefits for stakeholders ->

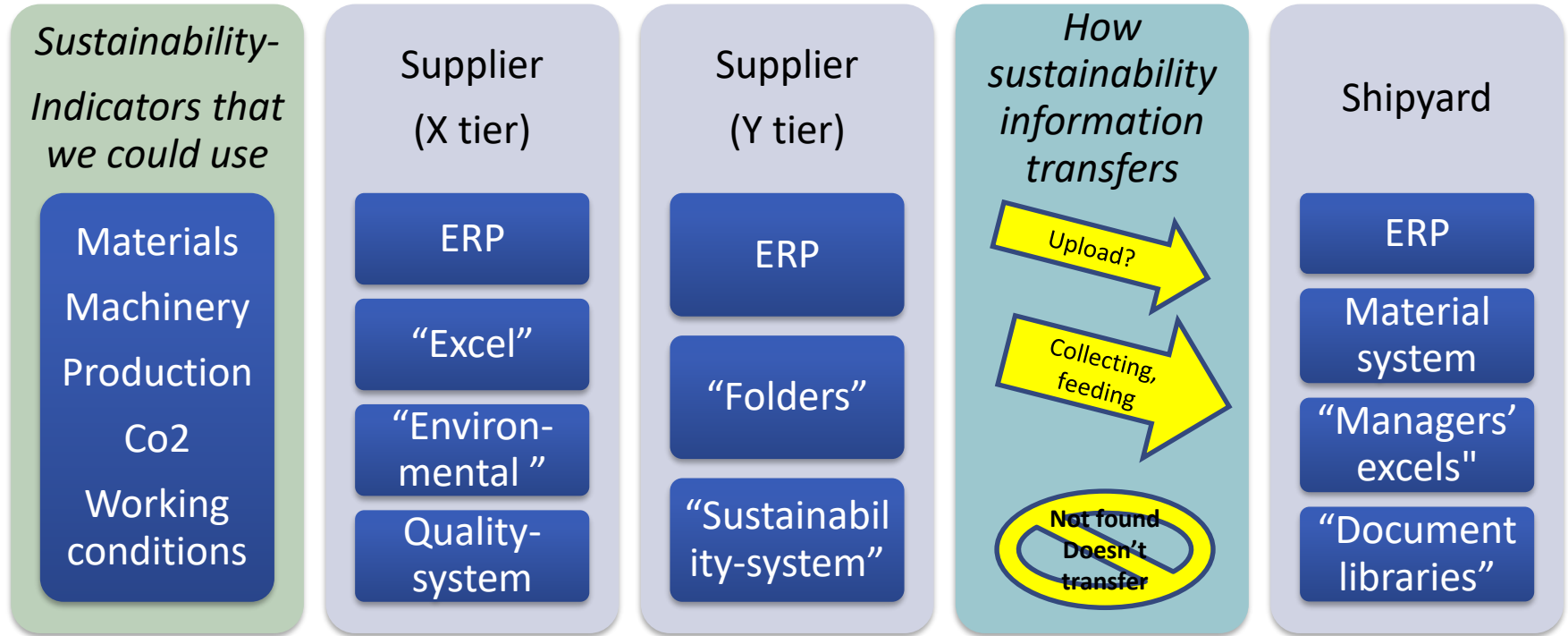
Suppliers show Sustainability-track for their clients

More support for using sustainability in B2B sales

Better data for sustainability in marketing B2B and finally B2C

Possibilities for stakeholders to access new business

Background: Sustainability information and how it transfers



1. What sustainability information is needed in the end of the value chain?
2. What such information be found in different parts of the network?
3. If something is not found: is it needed? Where and how to get it?
4. If its found but doesn't transfer, how to transfer it fluently (pilot applications)
5. How collected information is utilized? (opening, modeling, tools)

The utilization of results and expansion of the research

The research project is conducted in **two** phases.

- The first phase, linked with a parallel project by Meyer Turku Oy, focused in identifying relevant sustainability indicators, their transfer and utilization.
- **Based on the results of this phase, the supporting partners and other relevant actors in the shipbuilding network participated to the expanded project – that was launched in spring 2017.**

Phase II (2017->)

- Expanding the data transfer testing to larger group of companies
- Developing processes and protocols for open sustainability data
 - system will be available for all stakeholders, subcontractors, etc.
- Interface design for different data sources and users. Ideas:
 - Subcontractor interface
 - Client/end user interface
 - Recycler interface
- Final goal is to achieve a working system available for everyone in the industry

Presentation of software prototypes

- 1) Case NIT: Sustainable Human Resource Management
- 2) Case Meyer Turku: Effective utilization of IHM data

Case NIT: How to show Sustainable Human Resource Management

- NIT controls a large amount of personnel through subcontracting
- NIT:s Responsibilities cover also subcontracting and their HR arrangements
- Key customers have heavy reporting and transparency requirements
 - How to gather more accurate data on work processes
 - How to visualize it
 - How to utilize it during sales process

Case Meyer Turku: Business value from IHM Data

h

- EUSR regulations as a framework. IHM=Inventory of Hazardous Materials
- Gathering of IHM from suppliers needed new tools
- Datapilot was made in 2017 for gathering the data in uniform format
- Collecting, transferring and visualizing IHM data throughout the life cycle

Sustainability in Shipbuilding:

-more information and publications at
<https://tech.utu.fi/embedded/research/ustis/>

KAAPO M SEPPÄLÄ

UNIVERSITY OF TURKU, DEPARTMENT OF FUTURE TECHNOLOGIES



Turun yliopisto
University of Turku



Technology
Research
Center