

## Expected benefits of innovative tools implementation for a paper company

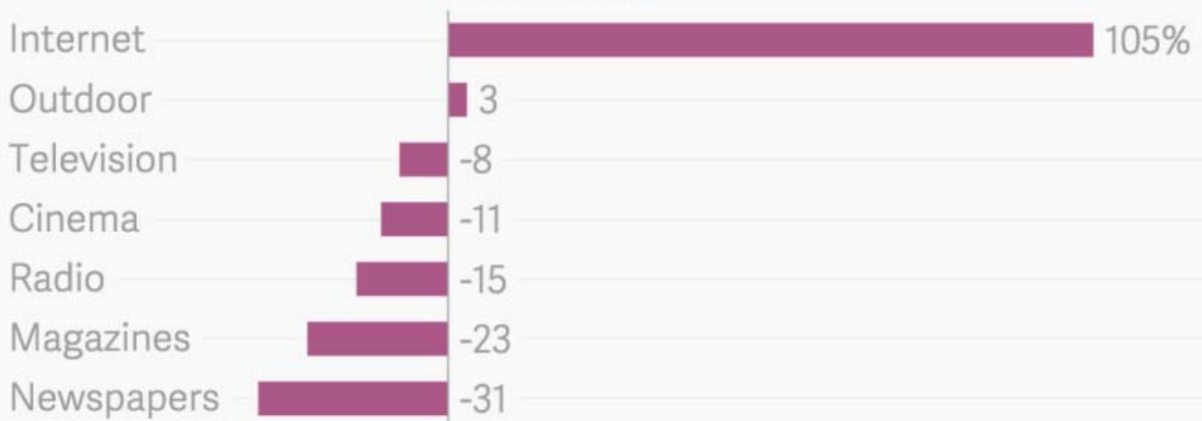
Rauni Seppänen, **HOLMEN AB**

Workshop on 6<sup>th</sup> of October 2015,  
Valencia, Spain

### Challenging future for paper in media

Change in average daily media consumption

2015 vs 2010



Quartz | qz.com

Data: ZenithOptimedia

June 2015: Print readership is still plummeting, and paywalls aren't really helping,

<http://fortune.com/2015/06/01/print-readership-paywalls/>

ZenithOptimedia says that it expects consumption of print newspapers will continue to drop by almost 5% per year over the next several years, and magazines almost as much.

## Paper mil → Multiproduct mill

Raw materials

- Profitable multiproduct mill
  - Main stream production - newspaper
  - Novel products utilizing side streams



## Paper mill: Main stream and Sidestreams

MAIN STREAM products

*Fibre age most probably will increase*  
→ Increased costs?

*Current incomes from the SIDE STREAMS?*

*Novel products using sidestreams?*

*Market dynamics?*

*Value chain partners?*

*Necessary investments?*

*Production costs vs. Incomes?*

## IMPACT: The results of this project will help to

create the conditions that will enable complete value chains of **HOLMEN MADRID MILL**

- To decrease their overall waste production and improve resource efficiency,
  - Better runnability, zero waste – waste converted to novel products
- increase competitiveness and
  - Multiproduct mill concept, novel products
- approve with a standardised way that the final impact on the environment is reduced.
  - Methodologies for pulp and paper applications will be developed, e.g. how to allocate the burdens between different life cycles

Source: VTT/Ulla Forsström

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## Holmen expectations:

Reduction of overall waste production and improvement of resource efficiency

- Improved quality of the secondary raw material (paper for recycling) achieved by dry-sorting or fractionation / separation in wet stage contributes to final product quality and improves resource efficiency.
- Benefits of adoption of separation/fractionation of material resources for efficient application and novel applications of by-streams.
- Reduction of the amount of waste produced → Side streams are turned into products.

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The goal of the Reffibre project is, e.g.

- To increase the added value and competitiveness the paper and board industry needs to boost the multi-product paper mill concept with changes in its production process and mind-set regarding the by-streams.

Holmen reflection:

- Reffibre's final outcome be a guide for practical implementation of the indicators of resource efficiency at industry level?

## Holmen expectations – Case 1

- Optimal linkage of production design and the process modelling tools to find business opportunities to create a multiproduct mill.
- Material and energy balance – e.g. DRYING COST?
- Investment costs estimate for e.g. side-stream-composite plant
- Composite production integrated with Holmen Paper mill?
- To reflect uncertainties:
  - The variety of possible end products is huge
    - Only rough price estimate of composite
  - Production capacity based on sludge available is large
    - Most probably there are not current markets for all of the sludge

## Future activities

- To implement REFFIBRE indicators based on online data and process models in the most effective way. When?



Source: Bumaga

- Determine new business opportunities for Holmen Madrid mill and find the right partners in order to realise them.

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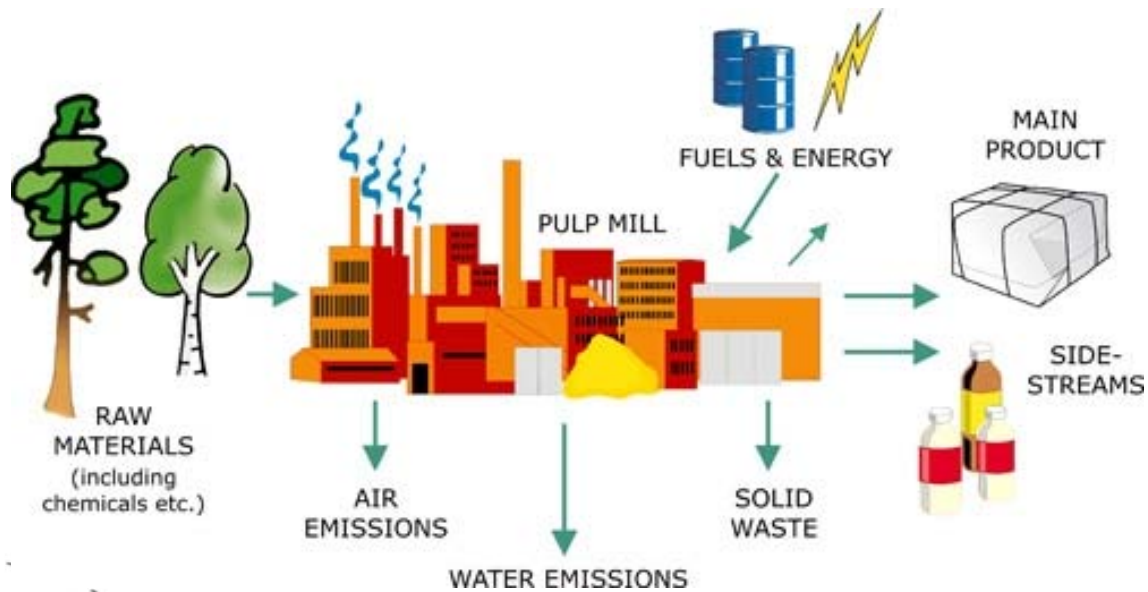
### Near future: Holmen Madrid multiproduct mill

Raw materials

- Profitable multiproduct mill
  - Main stream production - newspaper
  - Novel products utilizing side streams



## Holmen Madrid Multiproduct Mill



Source: VTT

## Acknowledgement

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The REFFIBRE team members.

Thank you for your attention / Muchas gracias por su atención.