

Overview on public policies and research programs on indoor environment : FINLAND



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La santé dans le bâtiment de la crèche au lycée

22 mai 2014

ATTENTION AUX ENFANTS !

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State of the Art: The big picture

- **Moisture and mould problems are among the major reasons for poor indoor air quality.**
- **Even 600 000 - 800 000 Finns (11-14 %) are exposed daily to poor indoor air due to mould.**
- **Moisture and mould problems cause annually an estimated 200 M€ cost for the national health care system.**
- **Cumulative net costs of poor indoor quality for the society are estimated to be 3 billion Euros annually.**
- **This equals roughly to national annual heating costs.**



State of the Art: Schools and daycare centres

- Trade Union of Teachers claims that the health of 250 000 children and adults in schools and daycare centres (c. 30 % of total) is under threat due to poor indoor air quality.
- 20 % of schools' and daycare centres' gross area are estimated to have remarkable moisture and mould problems.
- About 1300 schools (14 % of total) await immediate repair, but only around 100 can be started annually.
- The responsibility belongs to owners – the municipalities.



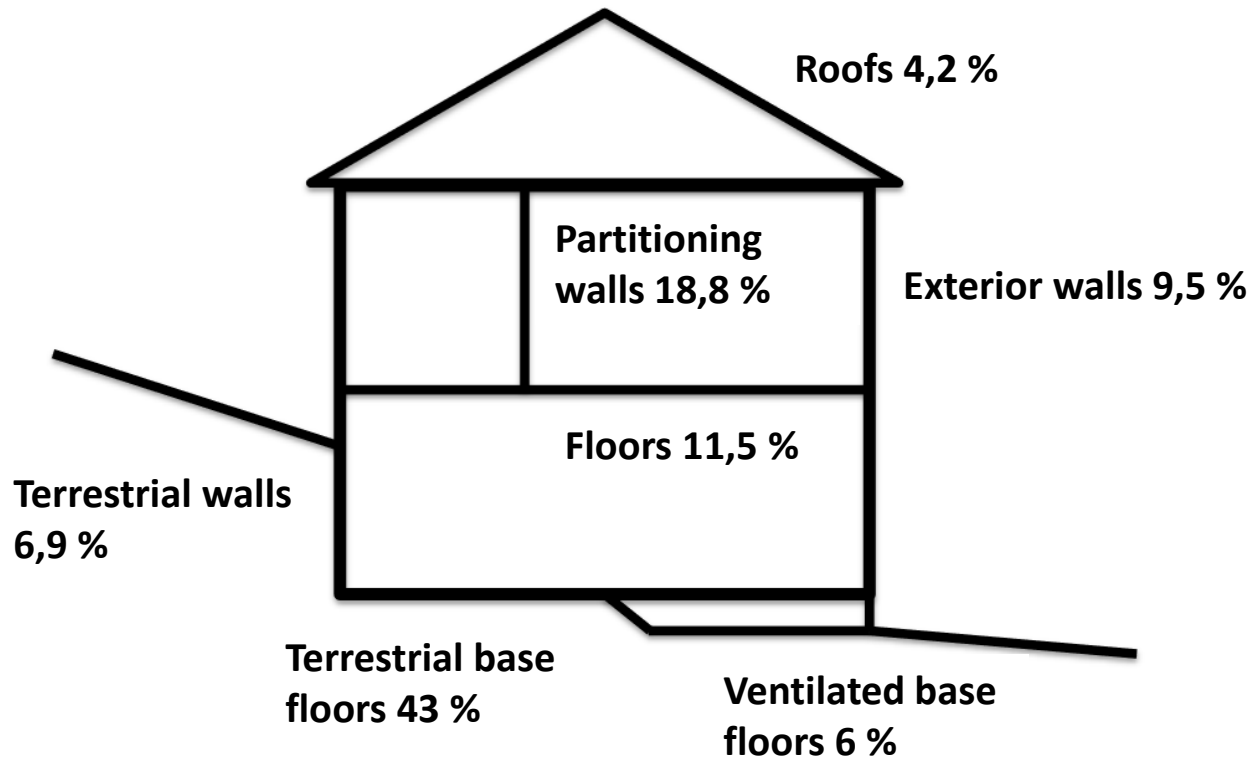
State of the Art: Schools and daycare centres

- **Main reason is the average age of the building stock, that dates typically back to 1960s.. 1980s and that**
 - has several well known risk structures
 - is anyhow in need for major overhaul
 - has typically a history of neglected repairs
 - misses resources and knowledge for decent maintenance.
- **As problems are exposed, the repairs typically cost more than three times the (undone) proactive actions.**
- **Yet these belated actions might still not fix the symptoms.**



State of the Art: Schools

438 acute moisture and microbial damages found in 47 school buildings divided into structures where found (in 2013)



→ www.tut.fi/elinkaari



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Public policies 1: Legislation

- As part of national energy efficiency goals and the identified problems of the built environment, Building Act and decrees are currently undergoing a review and update due 9/2014.
- The statutes concerning designers' and supervisors'

- requirement categories
- qualifications and approval
- assessment and evaluation

form the backbone for a quality system of the construction process.

- The qualifications will be described in detailed tables for each specialization.
- In the update, renovation aspects will emphasized. The methods to investigate and repair moisture and mould problems will be clarified in new decrees.



Public policies 1: Legislation

- In order to improve moisture control in the construction sites, a new decree will make weather protection obligatory for all sites.
- Decree is likely to be implemented in 2016.
- As part of government programme, municipal construction supervision units will be joined together.
- This results into larger organizations to form stronger, more specialized and uniform support services for each area.
- Reform will be implemented in the beginning of 2017.



Public policies 2: Information and counseling

- **National Moisture and Mould Program 2010-2015, activities in**
 - new construction and renovation (damage prevention)
 - renovation of moisture and mould damages
 - education
 - qualifications and research
 - transactions and counseling
 - real estate and workplaces of the state
 - state subsidy systems and communications

→ <http://uutiset.hometalkoot.fi/en/home.html>



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Public policies 2: Information and counseling



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Public policies 2: Information and counseling



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Public policies 2: Information and counseling

PIENTALOJEN RISKIRAKENTEET

Kosteuden Siirtyminen
Diffuusiolla / Kapillaarisesti

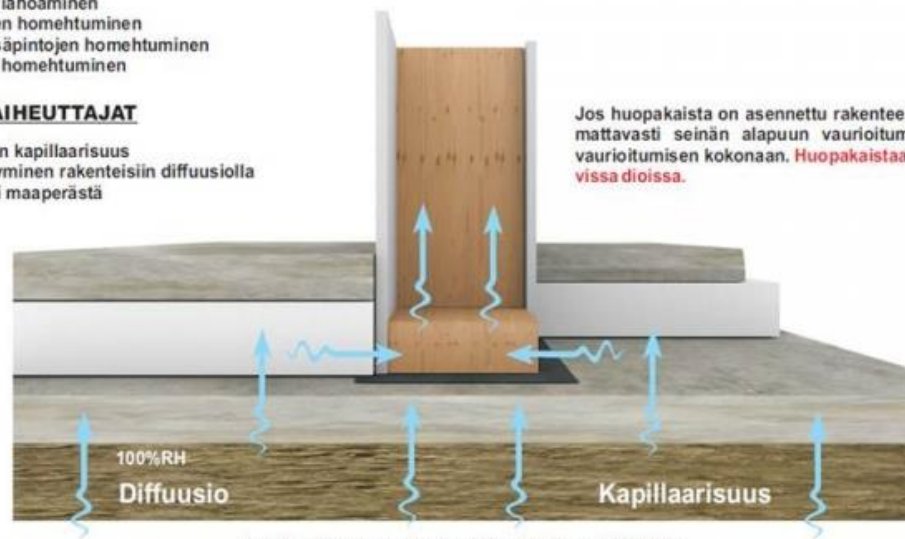
01B PUURAKENTEINEN VÄLISEINÄ
ERISTÄMÄTTÖMÄN ALALAATAN PÄÄLLÄ

VAURIOT

1. Seinän alapuun lahoaminen
2. Seinärakenteiden homehtuminen
3. Seinälevyjen sisäpintojen homehtuminen
4. Seinän alapuun homehtuminen

VAURIOIDEN AIHEUTTAJAT

1. Lattian alusmaan kapillaarisuus
2. Kosteuden siirtyminen rakenteisiin diffuusiolla ja kapillaarisesti maaperästä



KOSTEUS- JA HOME TALKOOT

Kosteuden siirtyminen puurakenteisessa väliseinässä.



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Research programs

- **RYM Ltd. – Strategic centre for Science, Technology and Innovation of the built environment in Finland – gathers 52 companies and institutions in the real estate and construction sector**
 - **Indoor Environment program (2012-2016)**
 - User-Centric Indoor Environment
 - Energy Efficient Control of Indoor Environment
 - Business Logic of Knowledge Intensive Space Markets
 - Environments for Learning and Creation of New Knowledge



→ www.rym.fi



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Research programs

- **Tekes – The Finnish Funding Agency for Innovation programs**
 - **Built Environment 2009–2014**
 - The programme focuses specially on renovation and refurbishment, construction for well-being concepts and infrastructure construction.
 - **Smart Procurement 2013–2016**
 - The programme will speed up the introduction of innovations through procurement excellence and the development of markets.
 - **Witty City 2013–2017**
 - The aim is to provide people with better living and working environments and companies with opportunities to bring new products and services on the market.

→ www.tekes.fi



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Thank you!



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