



# Regulations and beyond

(link with COST Action TU0901 on harmonized descriptors)

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## Outline of presentation

- › COST Action FP 0702
- › A different road



## FP 0702 ↔ TU 0901

### **COST action FP 0702:**

acoustics and low frequency vibration of **timber based lightweight buildings**

*solve the physics!*

*descriptors mostly a given, criteria unclear*

### **COST action TU 0901:**

Integrating and Harmonizing Sound Insulation Aspects in Sustainable Urban Housing Constructions

*harmonize the descriptors, **diversify** the criteria*



## **COST action TU 0901**

Main objectives:

- › Harmonize the descriptors used in different member states
- › Prepare a European classification scheme of **quality classes**

*for “old fashioned” acoustics*



## meanwhile, at FP 0702

Soon it became apparent that the central issues are:

- › How to deal with **low frequencies** (<50 Hz)
- › How to deal with **vibration**

in modelling, measurements, assessments and solutions



## For low frequency noise and for vibration ...

... there is a **broad range of descriptors**

... and much **confusion about criteria**

... and almost **no regulation** (laws) on any of that

Reason: no pressing matter until now



## Regulation for low frequency noise and vibration?

- › Standardize descriptors
- › Set minimal requirements

Beneficial for innovation and development in timber based and/or light weight structures

For instance:

- › Incorporate 63 Hz octave band in existing standards
- › Use DIN 4150 as basis for descriptors and criteria for vibration (*relax: just an example*)



## But do we *really* want regulation?

- › Regulation set **unambitious** criteria
- › Creates **one-fits-all** (unambitious) solutions

What we really need is harmonization.

What we really want are quality classes.

- › Regulation stands in the way of quality classes





## So, instead of working towards regulation ...

... jump directly to TU 0901:

- › Harmonize the descriptors
- › Prepare a European classification scheme of **quality classes**

*for low frequency noise and vibration*



## Quality classes

Minimum requirements for health

- › cortisol level
- › quality of sleep

Higher classes for annoyance

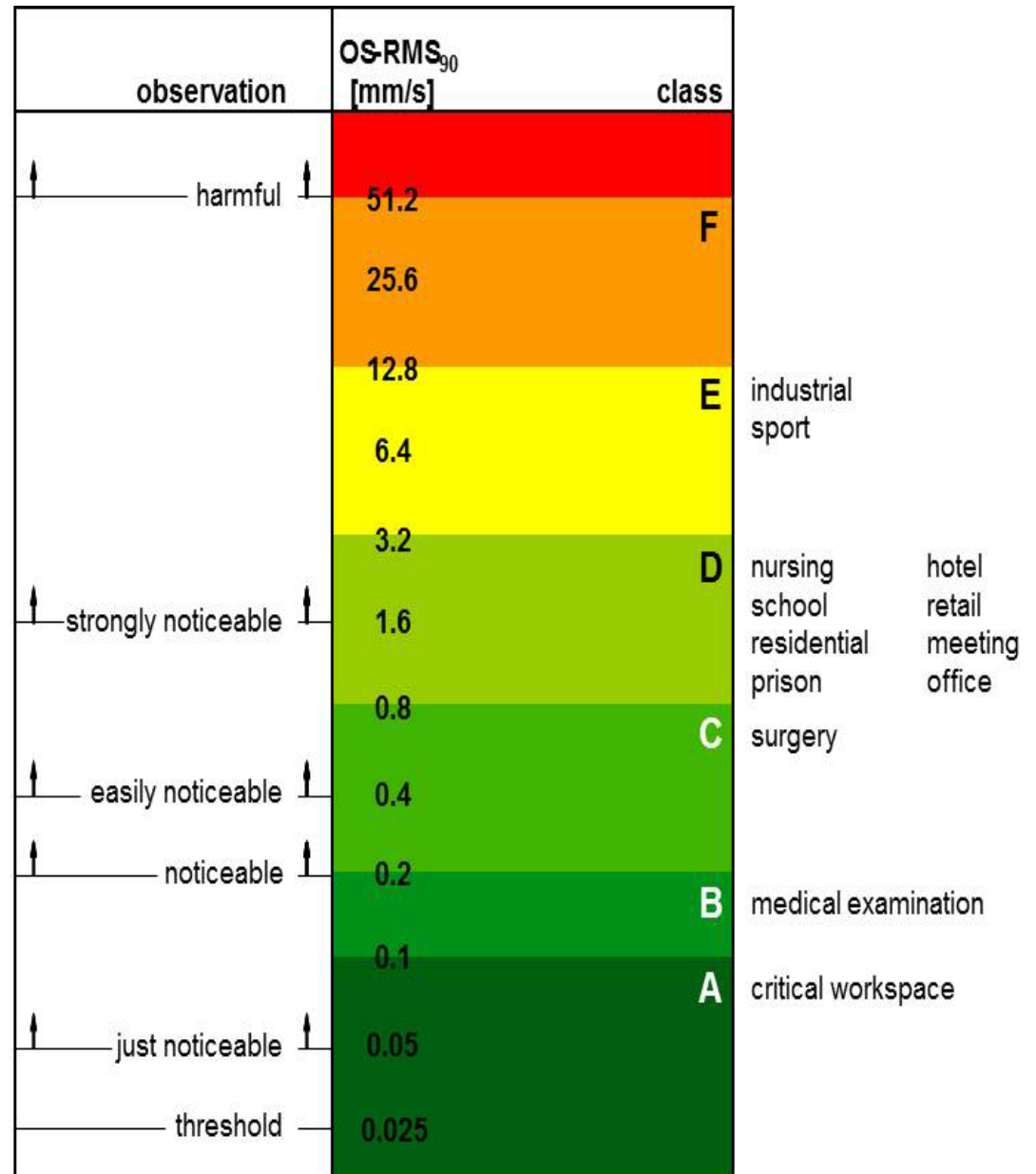
Make it dependent on:

- › age
- › life style
- › environment

For low frequency noise and vibration: **more research needed** on health and annoyance dose-response relationships

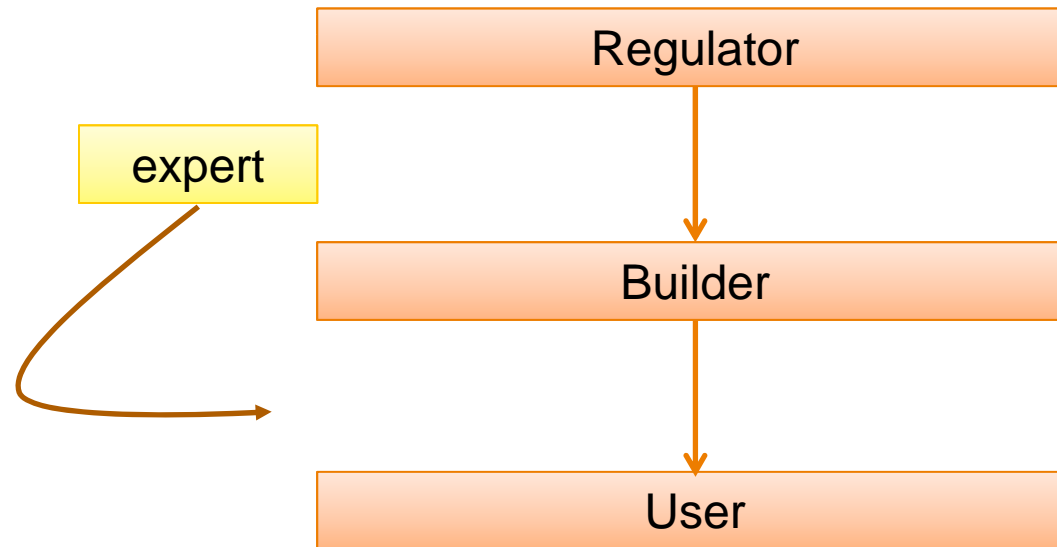


and not like this:





## Shifting the focus





## Further shifting the focus

- › Existing number of houses in EU: **200 million**
- › Newly build: only 1% per year
- › (demolition: 0.07% per year)
  
- › Major part of **200 million** has timber based floors
- › Minor part of 1%/year is timber based / light weight

The Netherlands:

- › noise from neighbours annoyance Nr. 1
- › 1 noise induced murder per year

So: let's help current **owners**  
to fight low frequency noise & vibration



**Solve this!**

