

Improving indoor environment  
Βελτιώνοντας το εσωτερικό περιβάλλον

# Area of knowledge

- Master in energy systems
- Focus on industrial systems
- Projectwork at Scama
- Thesis at Höganäs AB

# Background

- Comfort aspects of ventilation
  - Thermal comfort
  - Air quality
- Energy aspects of ventilation:
  - Heatloss
  - Fans
  - FTX
  - Cooling systems

# Goals

- **Provisional thesis title:**

” Utveckling av ventilationsdon för att optimera komfort med minimerad energiåtgång i fastigheter med användare och förvaltare i fokus.”

# Methods

- CFD
- LCC
- Measurements:
  - Laboratory
  - On location: before and after
  - Survey
- IDA?

# Literature study

- M. Cehlin
- H. Chen
- B. Moshfegh
- Tech. Spec.
- CFD

# Repus

- Founded 1976
- New mangement 2010
- Small Company ( 5 empolyees )
- Quality over quantity
- Unique Technology
- Aims to Expand R&D
- Aims to secure marketshare
- Aims to expand marketshare

# Subprojects

- Råcksta
- Sörbyskolan
- Evaluation of Repus softwear



# Råcksta – Vällingby parkstad

- Vattenfalls old main office
- 1200 new apartments
- Starts at 2014
- New technology for Repus
- Laboratory evaluation of new technology
- A big deal for Repus?

# Råcksta – Vällingby parkstad





# Råcksta – Vällingby parkstad







# Sörbyskolan

- Renovation starts in september 2015
- Possibility to compare Repus technology with existing ventilation devices
- Measurements
- Surveys
- CFD

# Evaluation of Repus Softwear

- Theoretical Models
- Laboratory confirmation
- CFD?
- Improving the model?
- Stepping stone for improving ventilation devices?

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