DO WE NEED SMART SOLUTIONS AND NEW DATA OR CAN WE SIMPLY USE THE DATA WE ALREADY HAVE TO BE SMART

AALBORG THE 15TH OF SEPTEMBER 2022
1. WHAT IS SMART, IN SEPTEMBER 2022
2. WHAT DO WE NEED TO BE AWARE OF
3. WHAT PROBLEMS DO WE NEED TO SOLVE
4. WHAT TOOLS DO WE HAVE
JENS LUNDING
TECHNICAL MANAGER OF ISTA DENMARK

PROJECT MANAGER – UTILITY OF HILLERØD
LOWTEMP DISTRICT HEATING FOR LOWENERGY CITYAREAS
LARGE SOLARHEATING PLANTS
WOODCHIP BOILERS (GASIFIER AND COMBUSTION)
DYNAMIC MODELLING OF DISTRIBUTION GRIDS

HEAD OF DISTRICT HEATING UTILITY – GLADSAXE FJERNVARME
LOWTEMP DISTRICT HEATING FOR CITYAREAS
CONVERSION OF GASHEATET SOCIAL HOUSING TO DISTRICT HEATING
PEAK BOILERS ON ELECTRICITY
DYNAMIC MODELLING OF DISTRICT GRIDS,

MARKET MANAGER, DISTRICT HEATING – SWECO DENMARK
ULTRALOWTEMP DISTRICT HEATING FOR REGULAR HOUSES
PLUS-HEAT FROM INDUSTRIES
ENERGSAVINGS IN REAL ESTATE
HEATPUMPS WITH SEAWATER
BASED IN ESSEN.

Germany, Headquarters
INTERNATIONAL & SUCCESSFUL COMPANY.

5,800 employees

22 countries

3.7 million tons of CO₂ emissions avoided in Germany

28,000,000 connected devices

13,000,000 residential and commercial units

60,000,000 devices
WHAT IS SMART, IN SEPTEMBER 2022
WHAT IS SMART, IN SEPTEMBER 2022

SMART in the ongoing energy crisis

• we must use the information we can get from the meters that are already installed.

• We have to use the tools we already have, because it is not possible to come up with new smart digital tools or access other data sources, and have them implemented by all the building owners before winter

• We don't have time to talk about the best meter and the best data collection frequency, because we can't manage to replace the meters before winter
The radiator meter is the meter

- Is, the most used meter in most large properties that is constructed before 2014.

- Can tell us, where there might be "issues" that needs to be solved, in order to optimize the consumption of energy.

- Shows where the cooling of the of water in the central heating is poor.

- Digital data has been collected via radio sense 2002 – 20 years of experience with smart data.
WHAT IF WE ONLY HAD ONE ENERGY METER

HEATCOST ALLOKATER COMPARED TO ENERGymETER
WHAT DO WE NEED TO BE AWARE OF
WHAT DO WE NEED TO BE AWARE OF
THE INDOOR-, OUTDOOR- AND RADIATOR TEMPERATURE

OUTDOOR TEMPERATURE

INDOOR TEMPERATURE

FLOW RATE FOR ROOM RADIATOR HEATING

Average heating: apartment from 21st of Jan 2021 to 21st of April 2021
A CASE STUDY
CORRELATION BETWEEN OUTDOOR- AND RADIATOR- TEMPERATURES
INFORMATION FROM THE HCA

THE HCA TELLS US THE DAILY TEMPERATURES THAT IS USED FOR HEATING

- Only some radiators are being used
- Some uses the thermostatic valves as on/off valves
- The supply temperature is around 65 degrees C.
TEMPERATURE AND HCA MEASURES INDICATES FAILURES

IF TEMPERATURE AND ENERGY DOES NOT FOLLOW EACH OTHER
THERMOSTATIC VALVES

IF THE VALVES DOES NOT WORK – NOTHING WILL WORK

Heat effect delivered from radiator

Outdoor temperature, degrees C

Radiator temp. C
Radiator countings
Energy (kWh)

THE RADIATOR AND THERMOSTATIC VALVE WORKS FINE
THERMOSTATIC VALVES

IF THE VALVES DOES NOT WORK – NOTHING WILL WORK

Heat effect delivered from radiator

Outdoor temperature, degrees C

NO THERMOSTATIC VALVE
WHAT TOOLS DO WE HAVE
These are the information ista is providing to most Danish tenants