

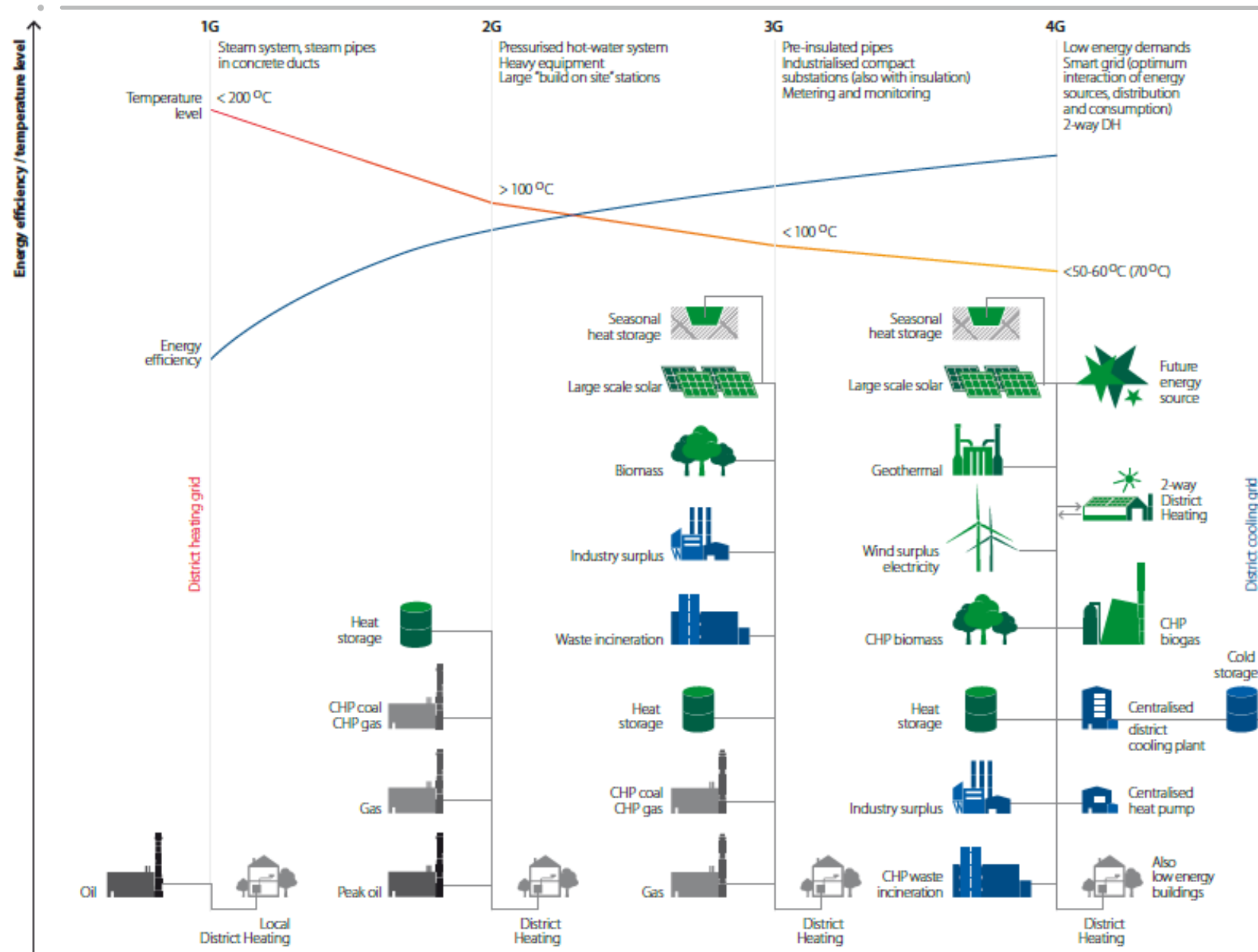
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Smart metering provides the transparency
required for efficiency”

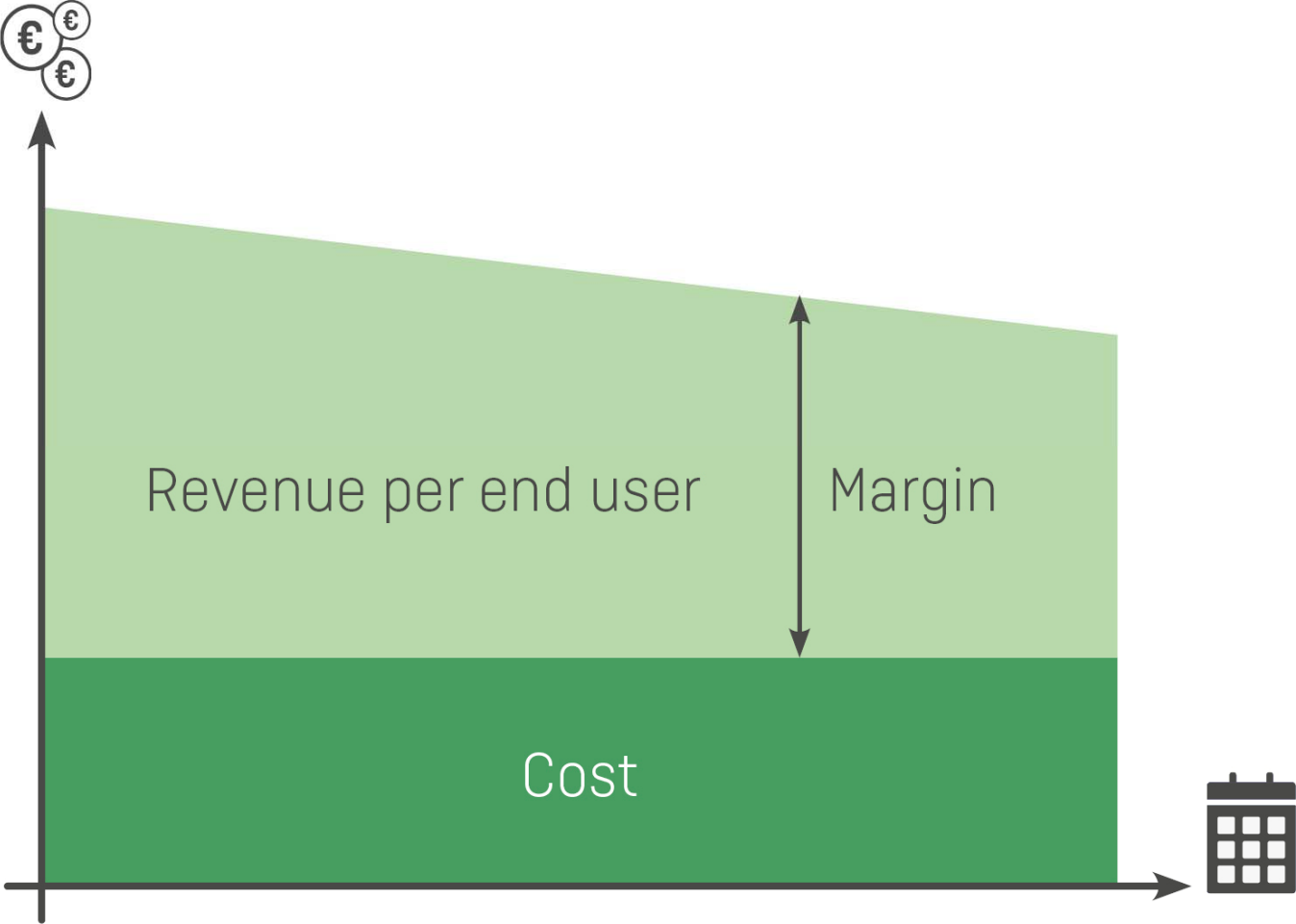
Steen Schelle Jensen
Head of Heat/Cooling Solutions
Kamstrup A/S



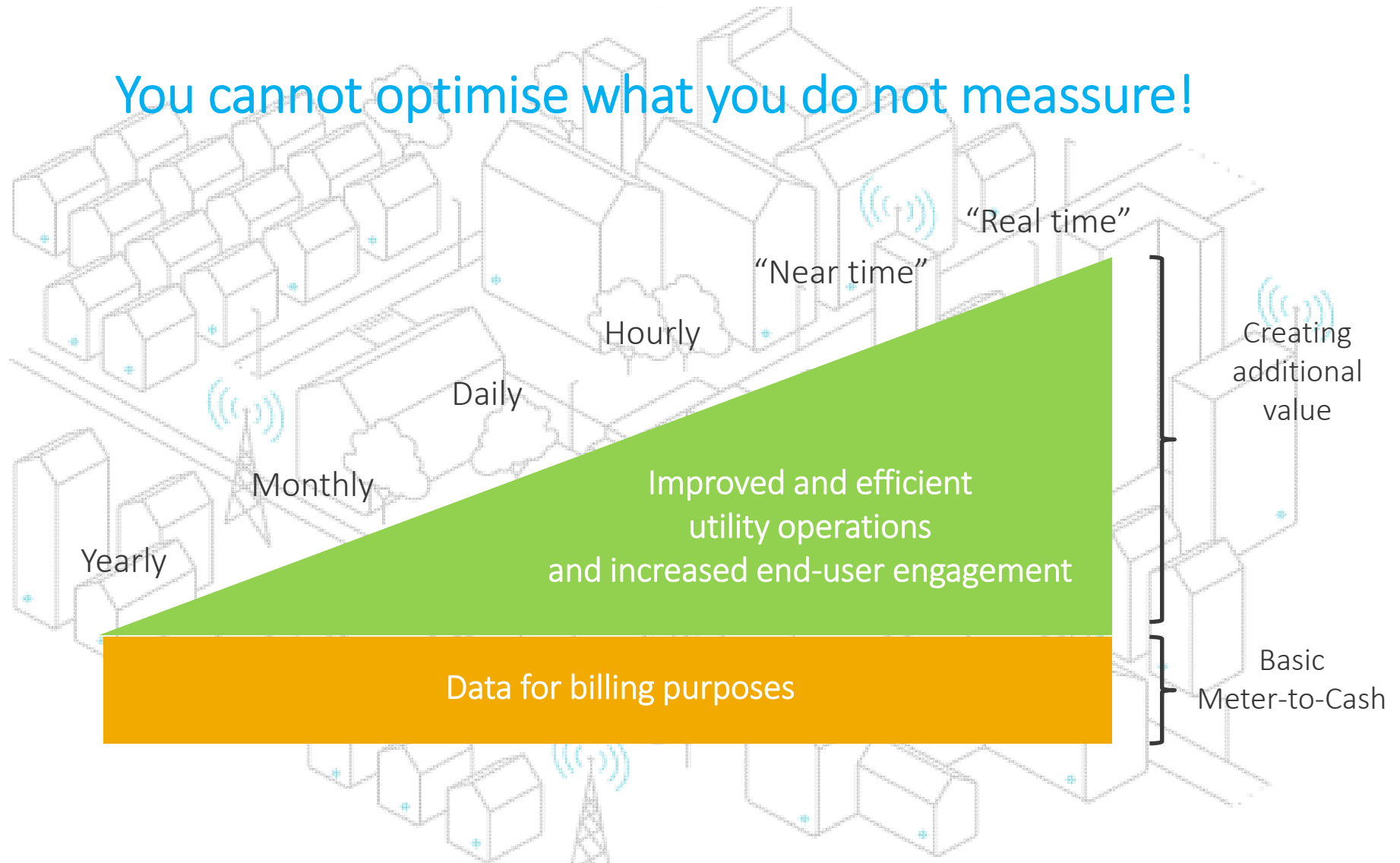
Complexity in District Energy is increasing towards 4G



How to stay competitive?



You cannot optimise what you do not measure!



What is a smart meter?



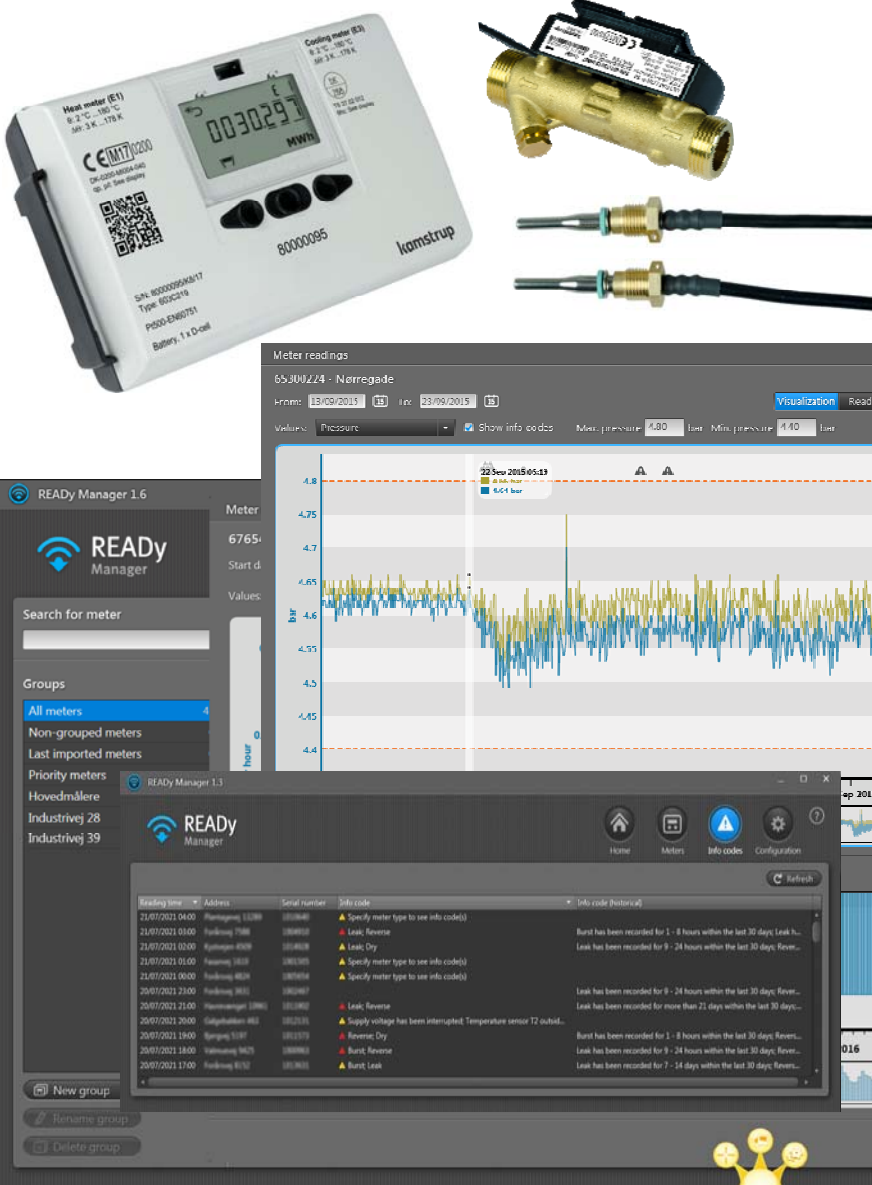
Energy metering for heating and cooling applications

A flow and temperature “sensor” in every connected building

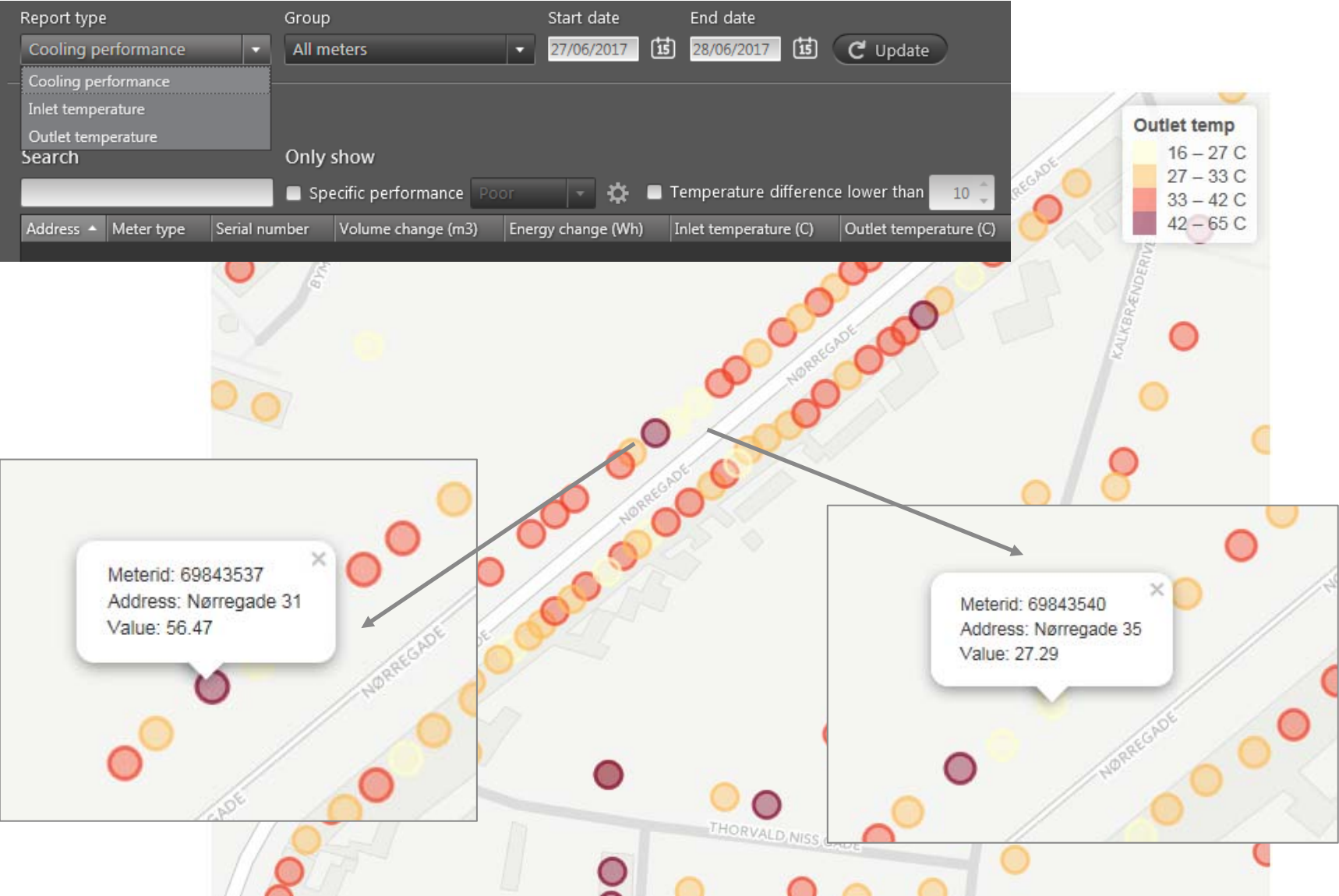
Integrated wired or wireless communication for local and/or wide area communication

Integrated data logger for detailed troubleshooting

Supports features like leakage detection, continuous commissioning, pressure monitoring, peak power limitation etc.



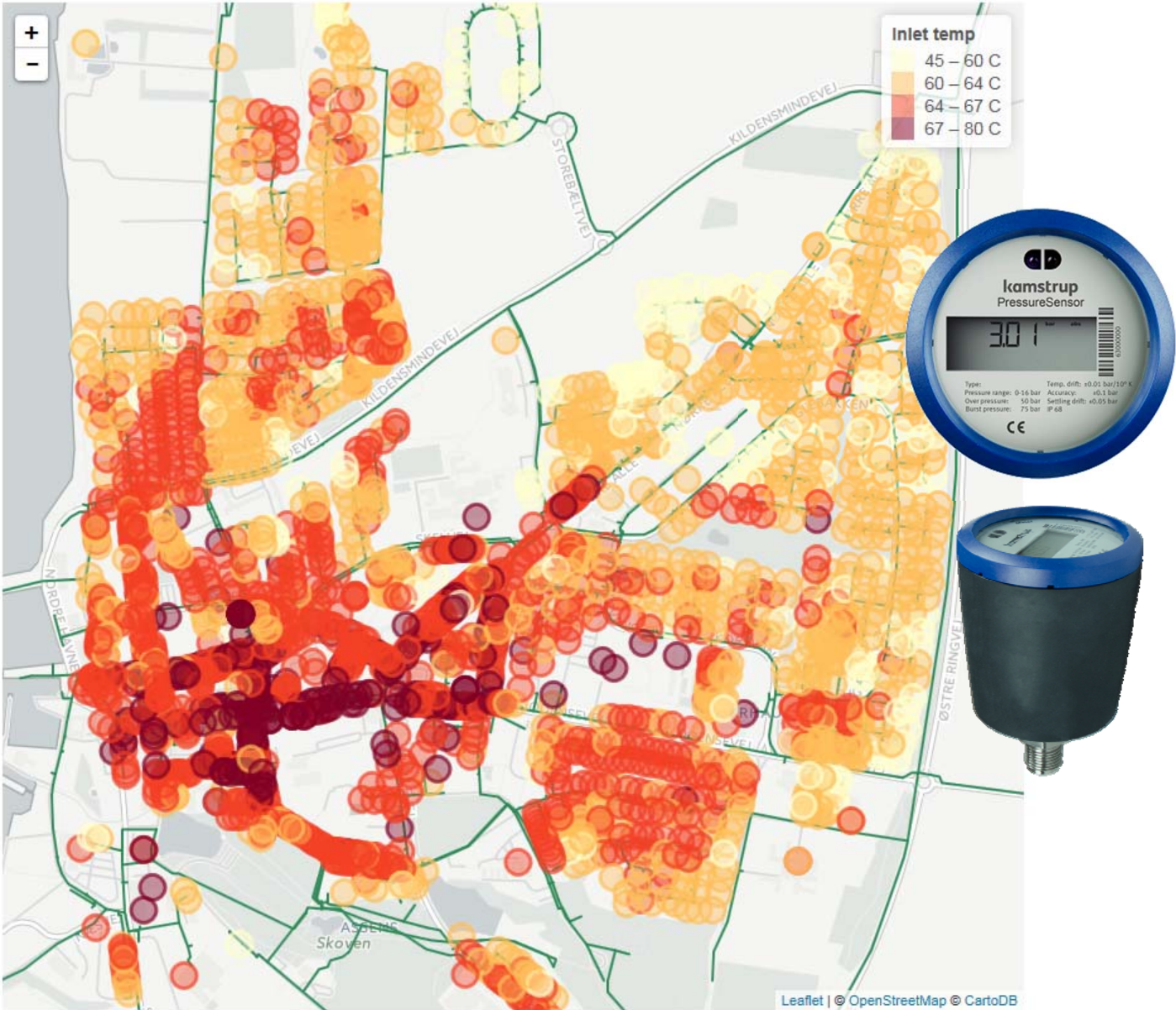
Find the buildings that stresses the network most



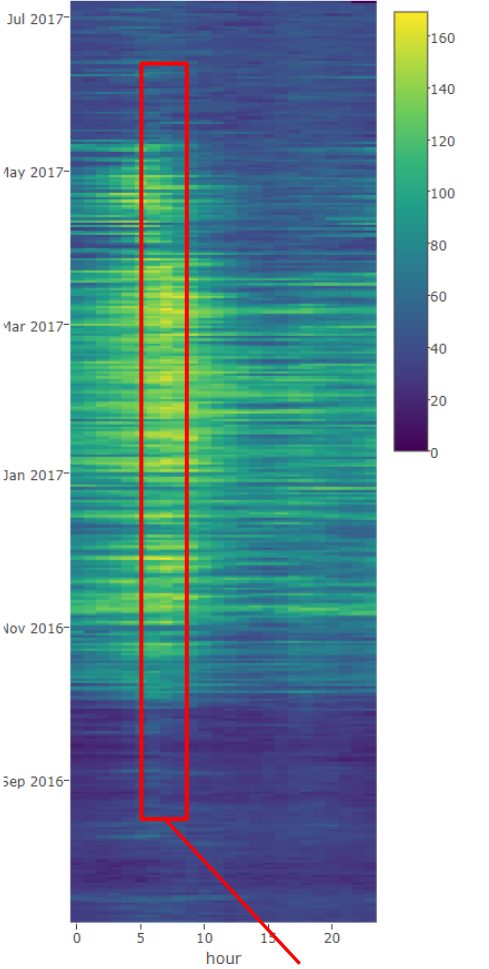
Identify faulty or misadjusted substations



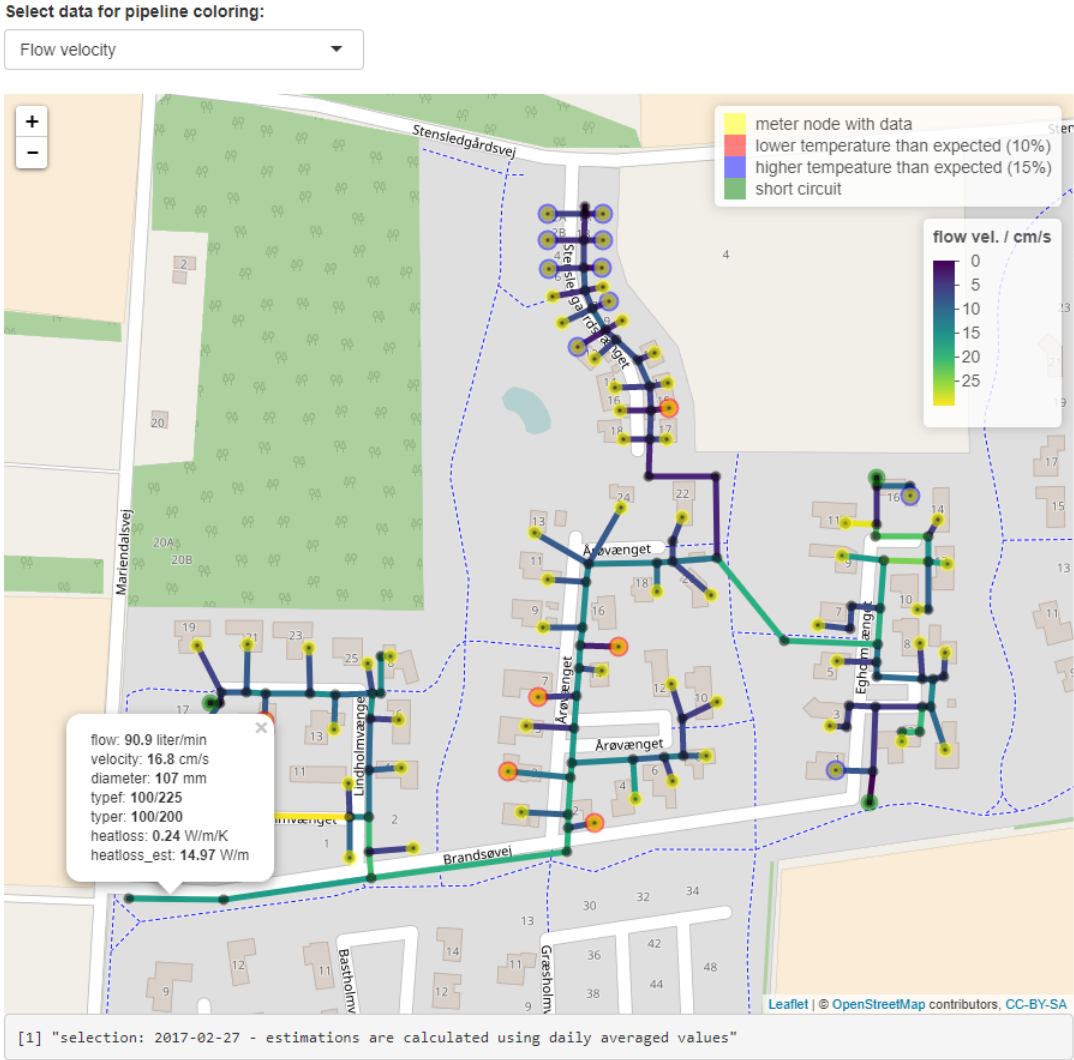
Distribution network temperatures (and pressure)



Distribution network load monitoring



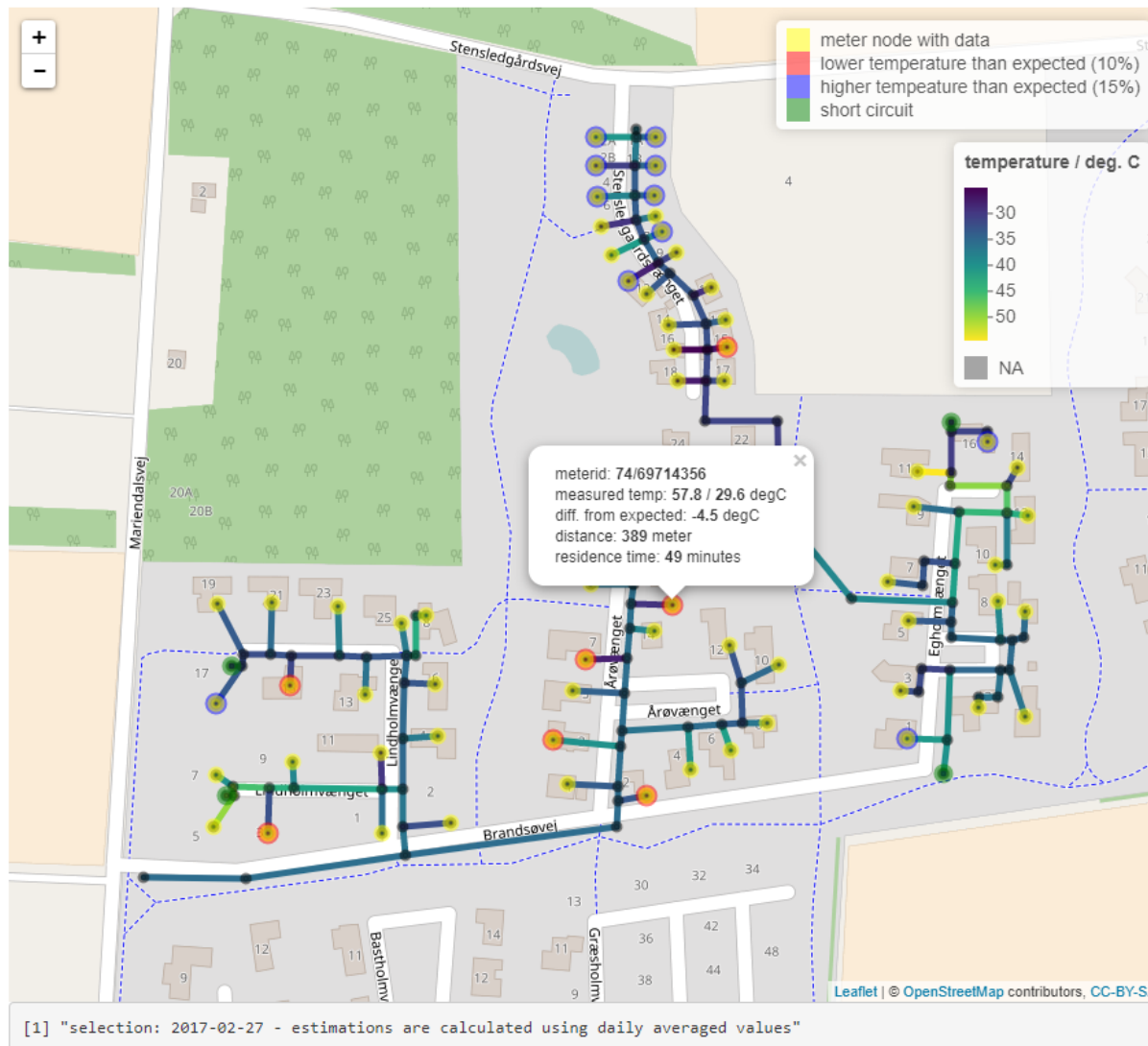
Morning peak across season



Advanced heat loss mapping

Select data for pipeline coloring:

Return temperature



Engaging with end-users



The screenshot displays the Duckburg Utility website interface. At the top, the browser address bar shows <http://www.ebutler.dk/>. The website header includes the Duckburg Utility logo and navigation links for Settings, Help, and Log out. The main content area is titled "Heat, energy usage · 2014 · Central heating" and features a navigation menu with options for Hourly, Daily, Monthly, and Yearly views. The data is presented in three panels:


- Left Panel: "The House"** - Shows a consumption tendency of -5% for heat usage on 1 meter. Below this, there are settings for "Units" including Central heating, Temperature, forward, Temperature, return, and Volume usage.
- Middle Panel: "Heat, usage Central heating"** - Displays a bar chart for January 2016. The x-axis represents time from 05:00 to 12:00, and the y-axis represents temperature in °C (14, 24, 35, 46). A red line indicates the temperature difference, which is 35.6 °C.
- Right Panel: "Heat, usage Varmemåler"** - Displays a bar chart for April and May 2016. The x-axis represents time from 14:00 to 26:00, and the y-axis represents temperature in °C (14, 24, 35, 46). A red line indicates the temperature difference, which is 35.6 °C.

A building's true performance



Summing up...

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- Low temp district heating is vital to solve technical and commercial challenges within DH
 - Data from smart meters can optimise how DH networks are being operated, planned and maintained ... You cannot optimise what you do not measure!
 - Let's make digital district heating happen!

Think forward!

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