kamstrup

# Digitalisation – from buzz to business

Tuesday September 8, 2020
Online cross-border seminar

Steen Schelle Jensen
Head of Business Development

70+ years of **experience** combined with the highest of **ambitions** and continuous strategic investment in pushing the limits for **innovation**.

# New demands New possibilities

## 2020

**October 25, 2020**
All meters installed after this date must be remotely readable.

Information to the end-users on a quarterly basis

Pay attention to the definition of *Final customers* and *Final users*

## 2022

**January 1, 2022**
Information to the end-users on a monthly basis

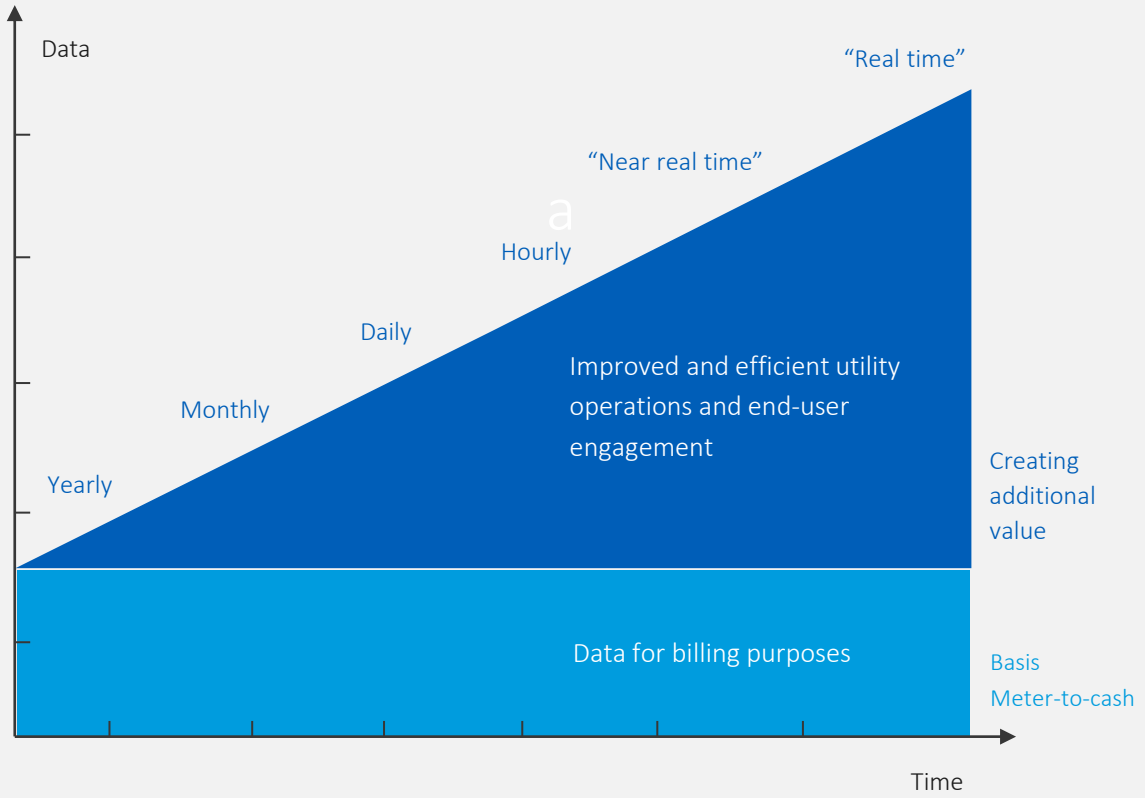
## 2027

**January 1, 2027**
All existing meters must be upgraded to remotely readable meters

...and New possibilities to optimise your business

# The Digital revolution

> You cannot optimise what you do not meassure



Kamstrup's
Thermal Energy Meters

# MULTICAL®

Everything starts with the meter - the basis for getting new and critical knowledge about your network and end-users.

Secure investments

Basis for optimisation

Reduce operational costs

# Delivering new technology and high quality- better basis for optimisation

Complete meter portfolio

- Clear overview and minimised unforseen costs
- High quality
- Longterm accuracy
- Long lifetime
- Low risk of breakdown

**Continuous development in communication technologies more than a meter for billing.**

Protect your investment in smart meters with extended warranties giving you full coverage, if a meter should malfunction.

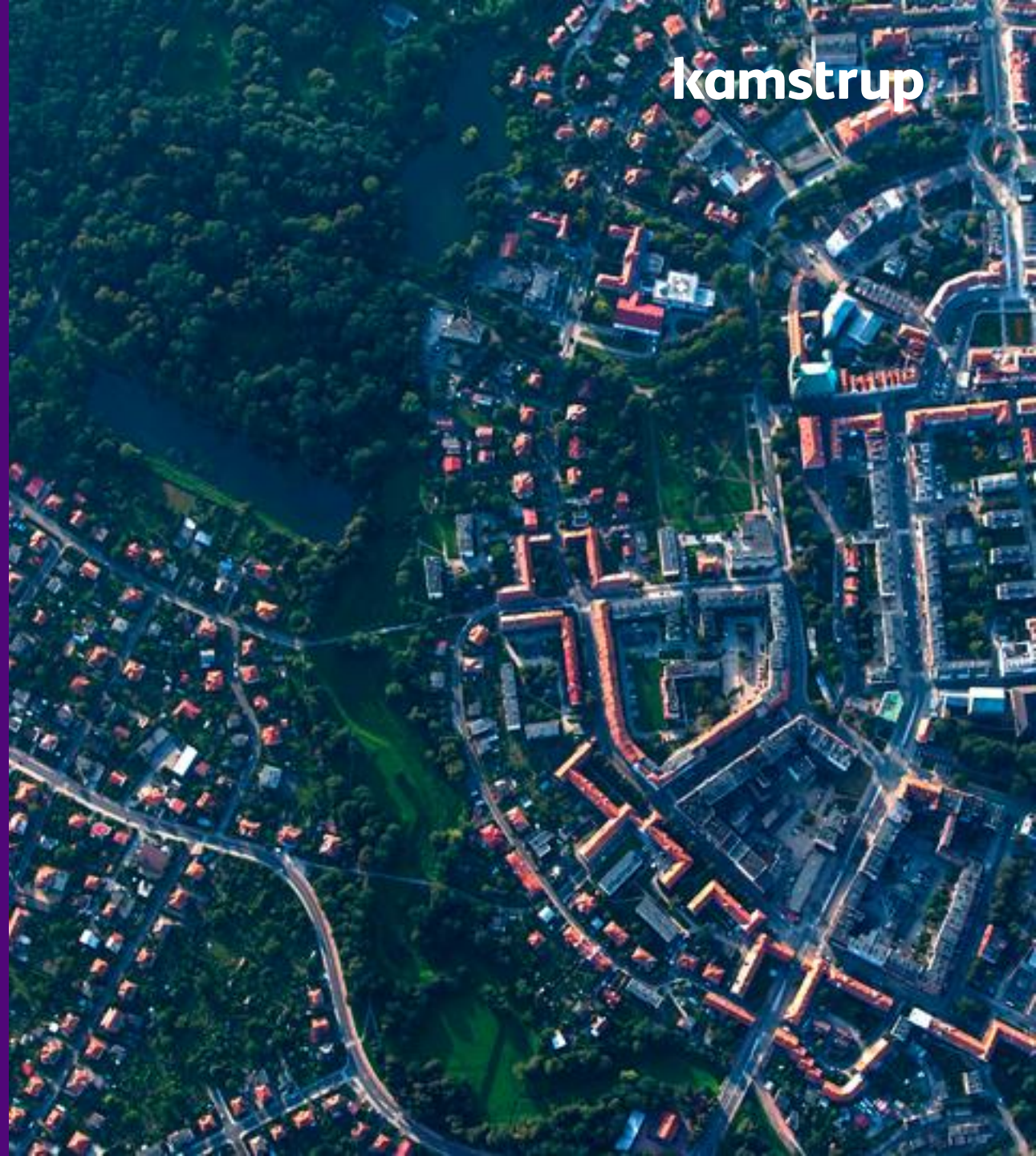
# Communication

The meter’s ability to communicate is crucial for the type of data that you can retrieve. Both for the utility and inside the building.

The broadest range of communication options

Flexibility

High performance and low total cost of ownership



# READy Software

READy is an effective solution for remote meter reading of smart meters – either through drive-by reading or through a fixed network.

Fast and easy access to consumption data

Gives you a tool for analysing the data

Your meter data is stored safely with us

READy

# Put your data to good use

Meter Readings and Consumption reports

Define good/bad return temperatures

See problematic buildings on a map

**Use frequent data in READy to**

- Document your quality of delivery
- Locate too high return temperatures
- Detect in-house leakage notifications
- Detect faulty installations

Get closer to customers
Give targeted advice
Reduce your customers' heating bills
Enhance your network performance

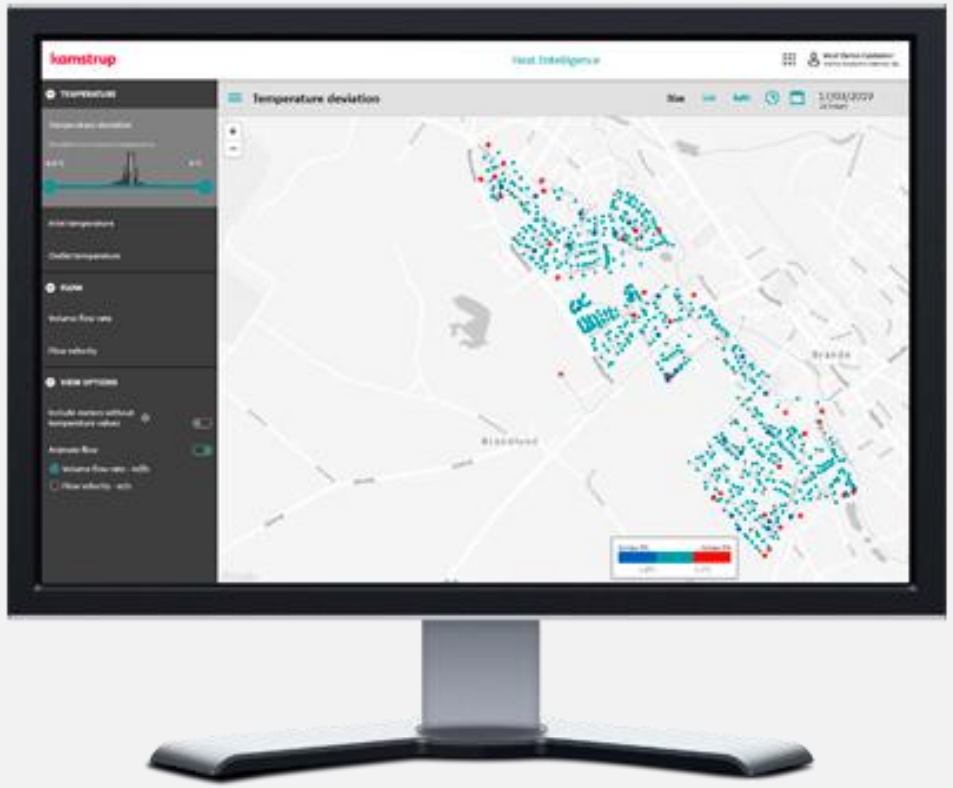
# Heat Intelligence Analytics

Heat Intelligence is a cloud-based analytics platform – enabling value creation via data analytics throughout your value chain.

Analytics based on facts instead of habit or “gut-feelings”

Reduce both operational costs and long-term investments

Innovative data-driven analytics




# Analytics you can act on!

Developed in close collaboration with district heating utilities

New level of transparency in your distribution network,
- all done without investing in additional expensive sensors in the field.

- Combining meter data with pipe characteristics
- Flow, temperature, pressure
- Determining the expected temperatures and visualizing deviations
- Multiple data sources deliver new insights
- Dynamically updated by real data

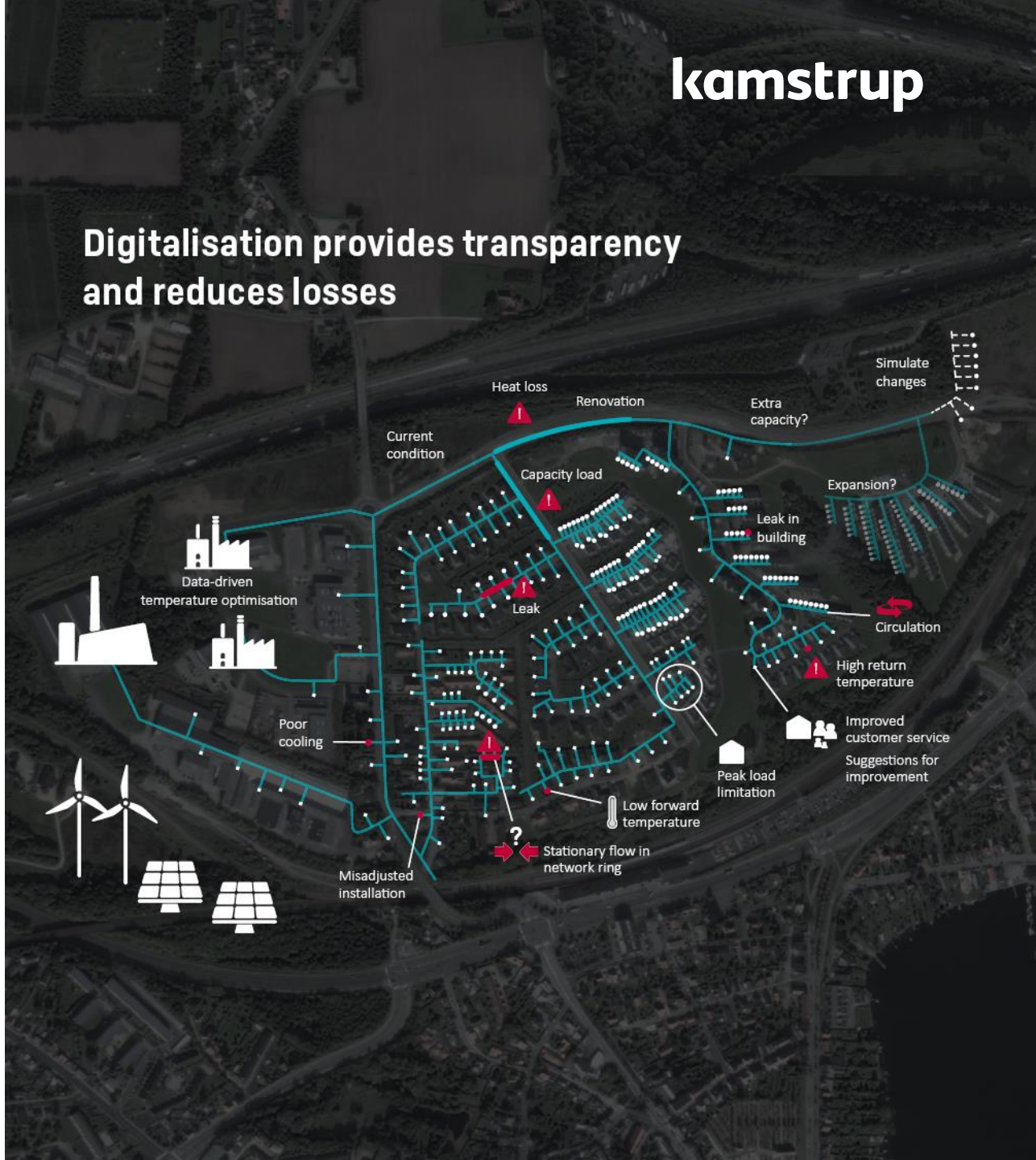
# Data-driven asset management for maximum impact

- Operate closer to the limits while documenting your quality of delivery
- Locate high heat losses and find small and large leakages
- Find bypasses and analyse the impact of these on the system performance
- Monitor load and capacity and identify what stresses your network

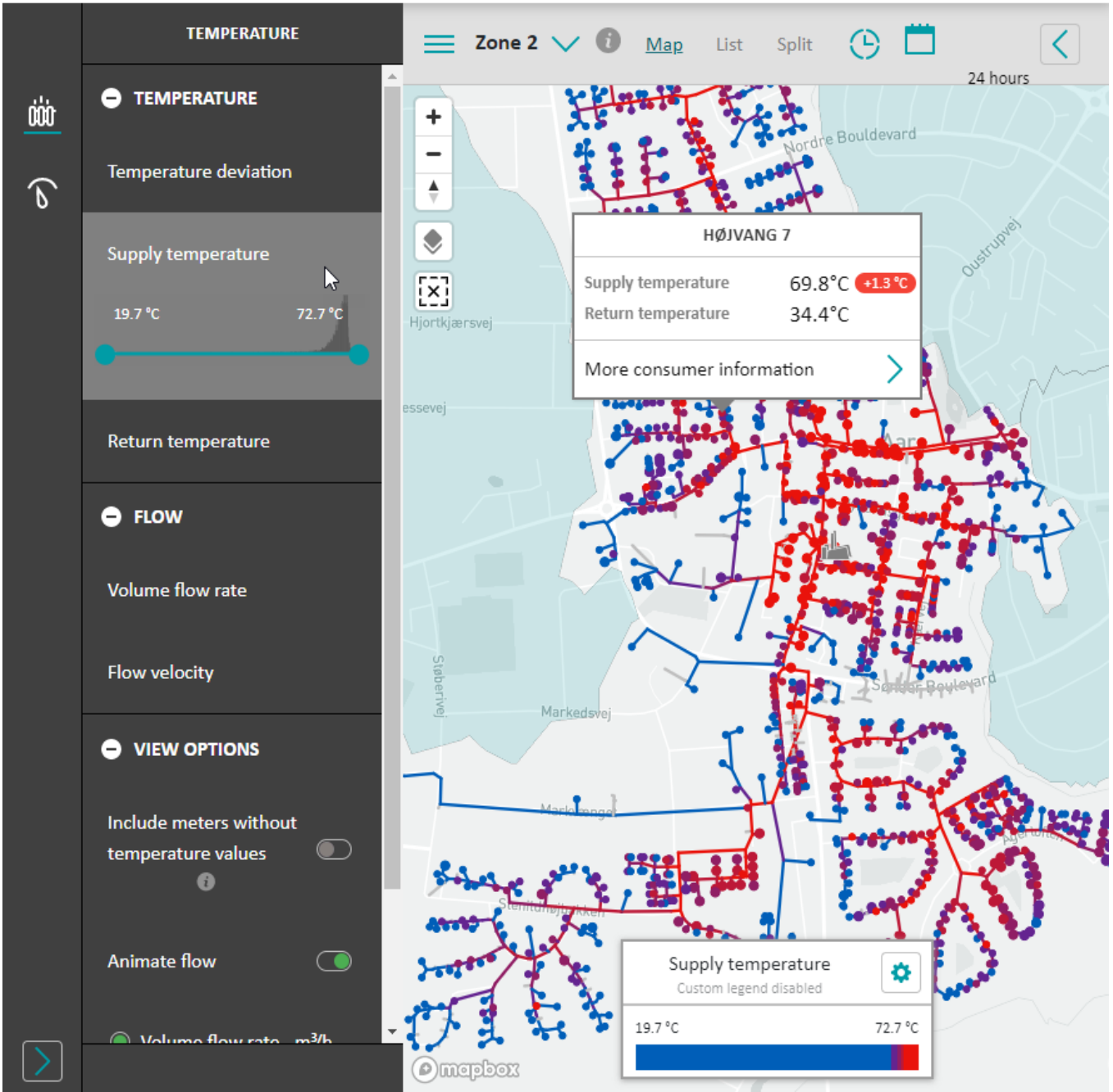
## Save energy

- Reduced heat loss
- Minimised pump operation
- More efficient production

**Improved cost-efficiency and happy customers!**
We ensure you get off to a hassle-free start for maximum value creation.



kamstrup



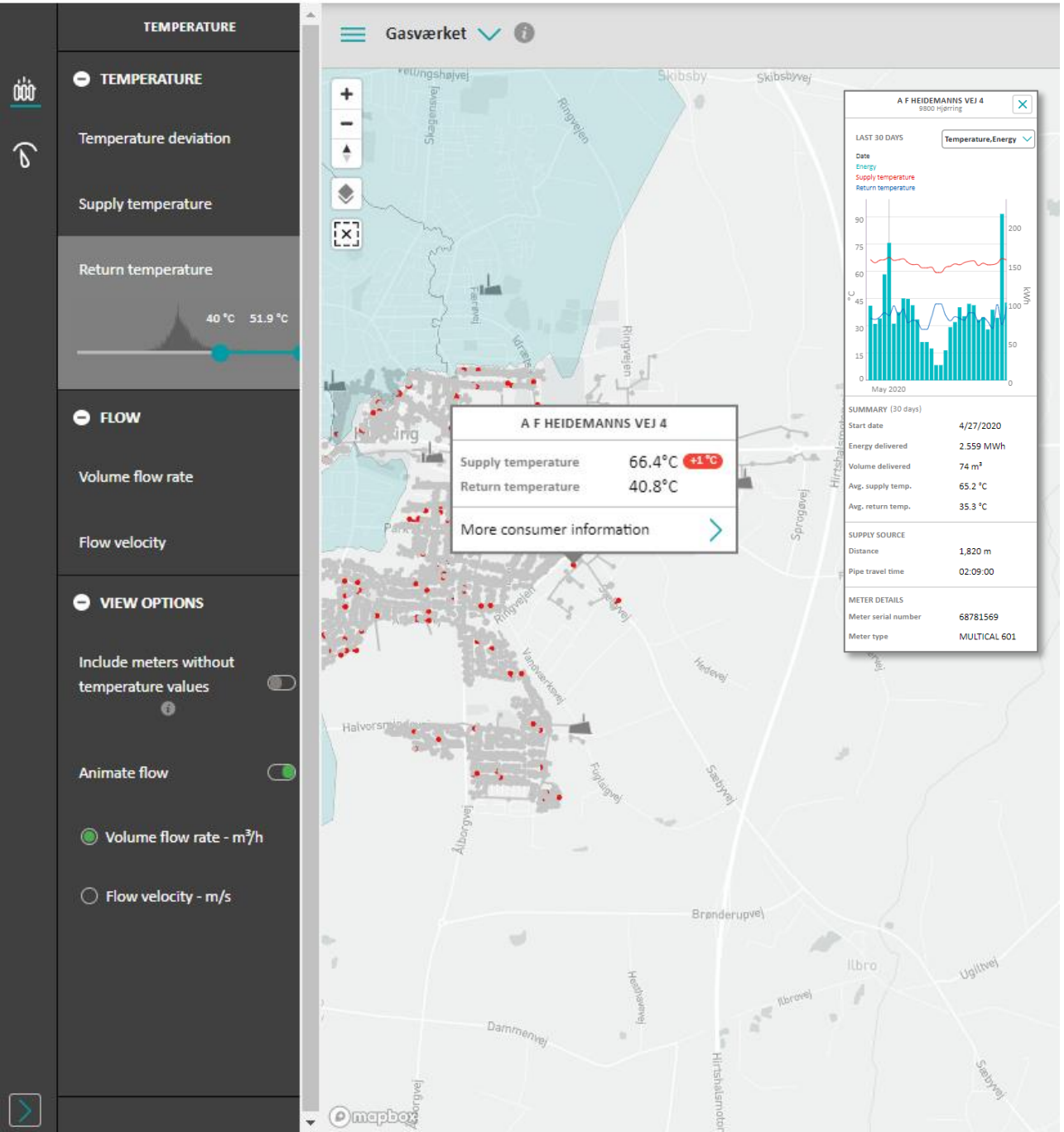

kamstrup

# Easy & intuitive user interface

Heat Intelligence dynamically visualizes your entire supply area and make it possible to see immediate effects on the map when toggling between dates, filters and functionalities

## Features

- Filter between different parameters, e.g. temperature, pressure, flow
- Select end points or pipe sections for more details
- Visualize results in graphs and over time
- Choose different views
- Choose date and time for analysis
- Export data



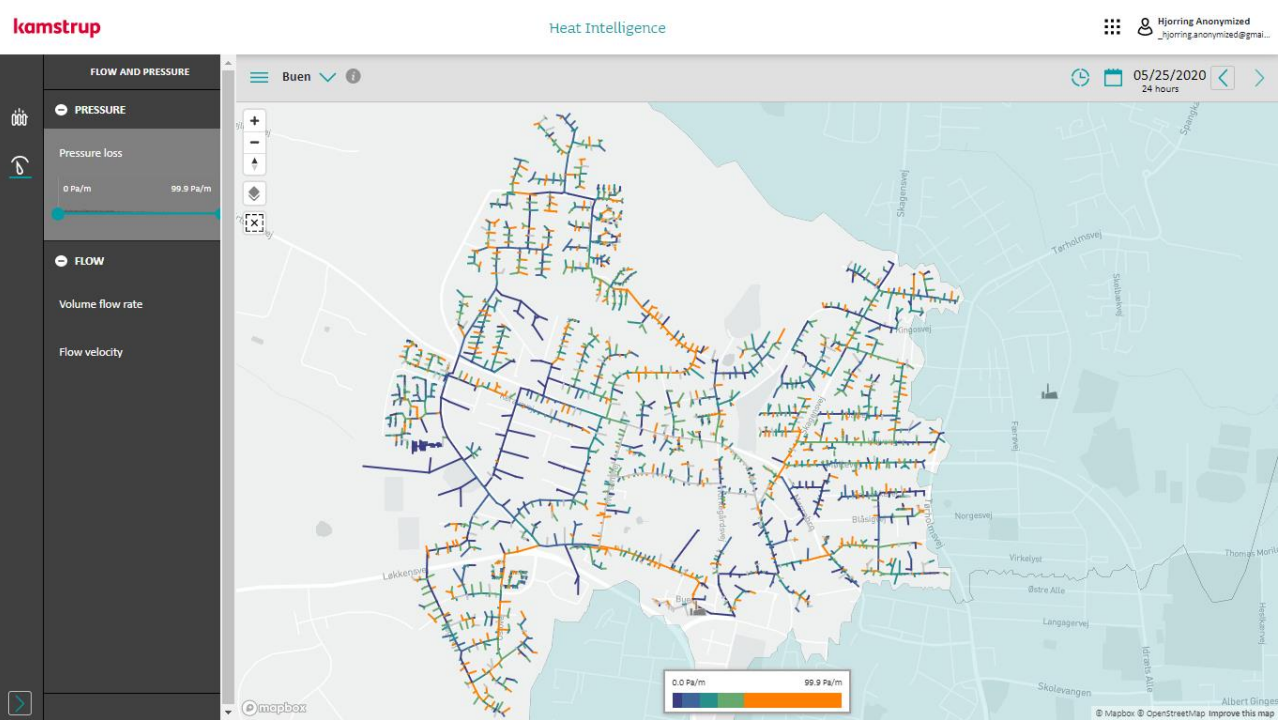

# Analyze return temperatures

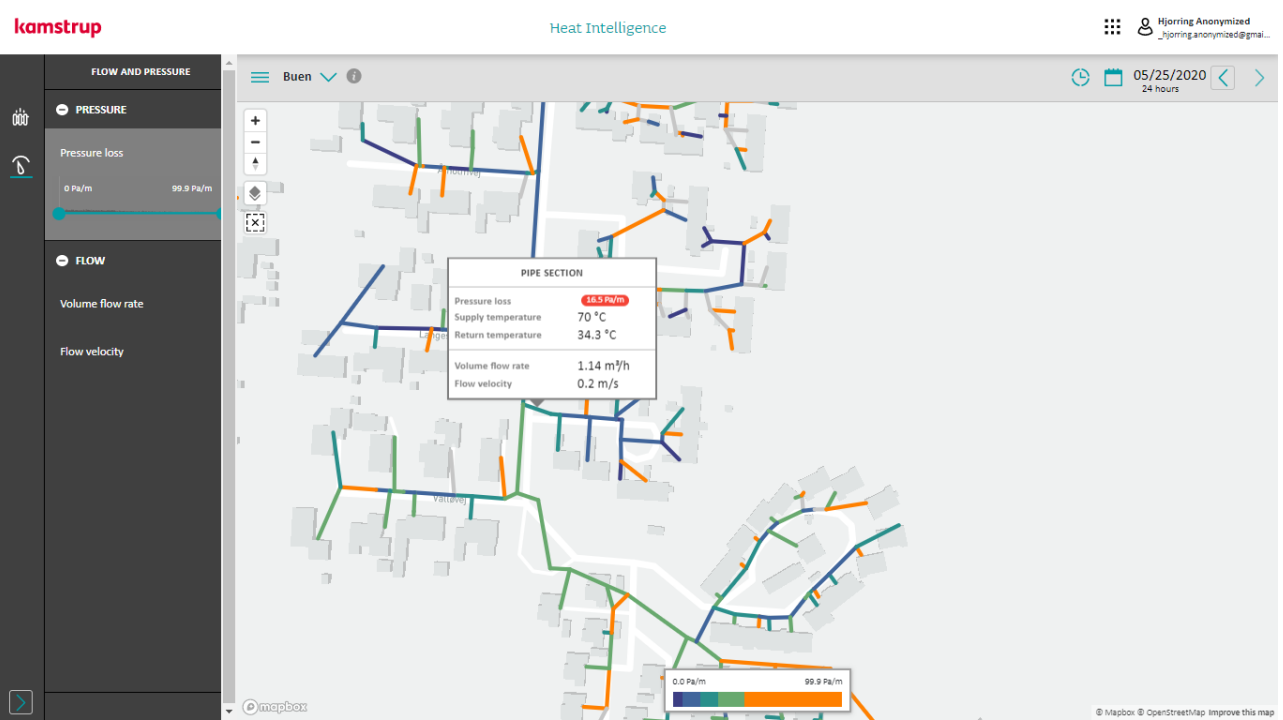
Low return temperatures reduce heat loss in the pipe network, minimize pump energy and ensure heat production can be done as efficiently as possible

## Features

Filter on return temperature and find out if some end-users are sending the water back with too high temperatures

- Who are the end-users with highest negative impact on return temperature?
- Should motivational schemes be considered (cooling tariff, incentives for installation improvement, communication to initiate behavioral changes, etc.)?
- View return temperature details over time and evaluate if problems have occurred with the end-user heat installation




kamstrup

# Pressure loss (gradients)

Visualizing pressure gradients per pipe section makes it possible to understand the dynamic load and capacity of the distribution grid and helps you optimize ROI of your asset management

## Features

Filter on pressure loss to find out how your distribution grid is performing – in real conditions!

- How is your distribution grid performing during peak season / period?
- Do you have bottlenecks in the system which should be eliminated?
- Do you have enough capacity to extend your network?
- Where would you get most benefit (ROI) from your asset management/ renovation plan?

# Measurable results
# - optimisations based on frequent data

## Assens District Heating

ROI 4-5 years on investment in new meters, radio network, READy and Heat Intelligence.

> There is a paradigm shift underway throughout the whole value chain, which is supported both politically and regulatory. Digitalisation is charging ahead and will continue to do so."

- Network temeratures lowered by **6-8°C**
- A **2,5%** reduction of the annual heat production
- A **12%** reduction of pipeline losses

## Næstved District Heating

10% less pipeline losses alone represents significant annual savings without even touching the assets underground.

> We have lowered the return temperature by 5 degrees, and, for large periods of the year, we have lowered the forward temperature by up to 10 degrees."

- Reduced return temperature by **5°C**
- Reduced flow temperature by **10°C**
- Reduced pipeline loss by **8%**
- Reduced customer heating bills up to **10%**

# Measurable results
## - optimisations based on data analytics

### Small leakages and heat loss

Locate small leakages, poor performing transmission pipes and service pipes. Use this knowledge to optimize your asset management

> By changing 16 service pipes with wet insulation, we managed to reduce the energy need by 125 MWh”


### Wet insulation

Insulation soaking wet, causing abnormal heat loss.
Diffusion from widely used pex pipes caused at drop of 10 degrees in 10 meters.

> As there was no burst or leak of water outside the pipe, other tools could not have revealed the poor performance"

# GDPR and the legal foundation for frequent data

Do we need end-user consent to collect data?

Because smart meter data is personal data, processing it raises the question of the need for individual customer consent …

… especially when meters are read more frequently than required for billing purposes and consumer information, e.g. on hourly basis

Knowing that end-user consent is an administrative burden

Knowing that lack of consent will have a negative effect on the data-based optimisation – not just for a specific building but also for the planning and distribution

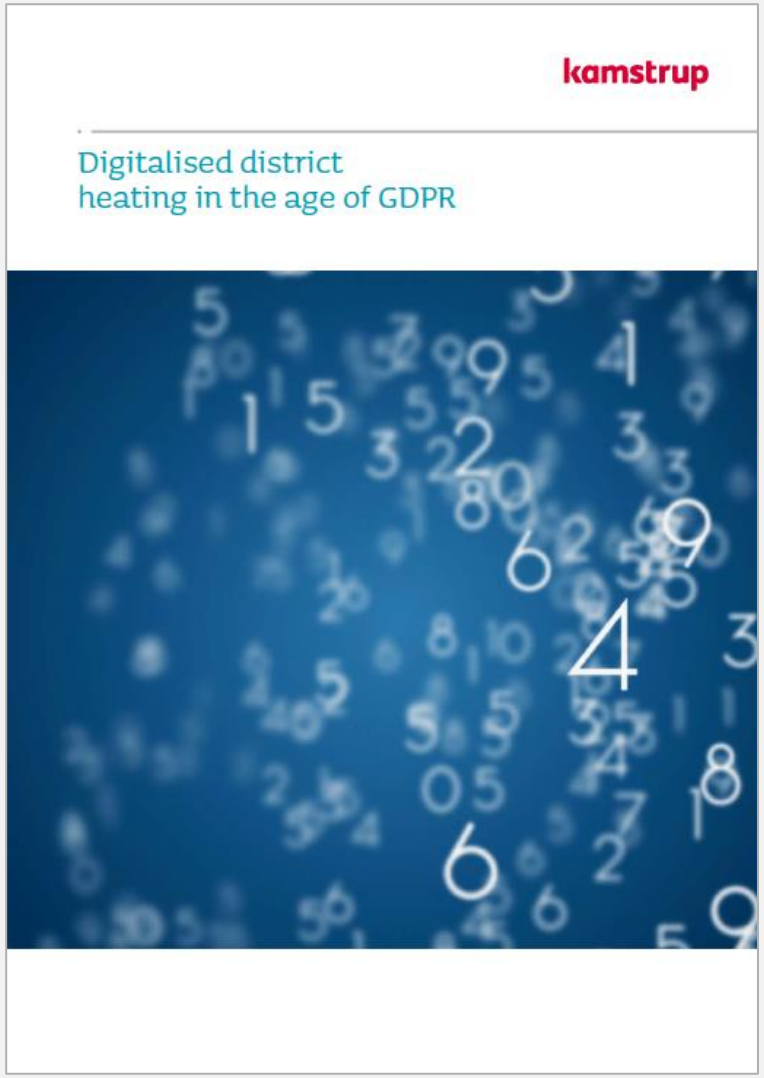
# The Danish interpretation of GDPR article 6

The Danish Energy Agency and Department of Justice has looked into whether legal basis for processing smart meter data can be found in Article 6 of the GDPR: **Lawfulness of processing**

They state that **processing of personal data is lawful to the extent** that:

(e) processing is necessary for the performance of a task carried out in the **public interest** or in the exercise of official authority vested in the controller;

(f) processing is necessary for the purposes of the **legitimate interests** pursued by the controller or by a third party (…)


# The Danish interpretation of GDPR article 6

In conclusion, the official Danish position states that frequent data collection from heat meters can be done without customer consent ..

… as long as the energy supplier uses that data either in the interest of the public to save energy and minimise energy losses, or for the legitimate purpose of improving the energy efficiency of its operations

… may only take place if providers of smart metering solutions also comply with the fundamental principles set out in Article 5 on processing of personal data.

kamstrup

# Stay in touch
## - and get access to the latest news

linkedin.com/showcase/kamstrup-heat

Blog Kamstrup.com/blog

News Kamstrup Heat Newsletter

kamstrup

# Questions?

Think forward

Steen Schelle Jensen
Head of Product Management
Phone +45 60 35 50 00
Mail: ssj@kamstrup.com
Kamstrup A/S