

kamstrup

Kamstrup in short

kamstrup

1,800

Employees with
400+ R&D
engineers

75+

years of curiosity and innovation

484

mill. EUR turnover in 2023

21

offices, more than
70 partners, active in
90+ countries



150
robots



***IT'S TIME
TO KNOW***

26,000,000

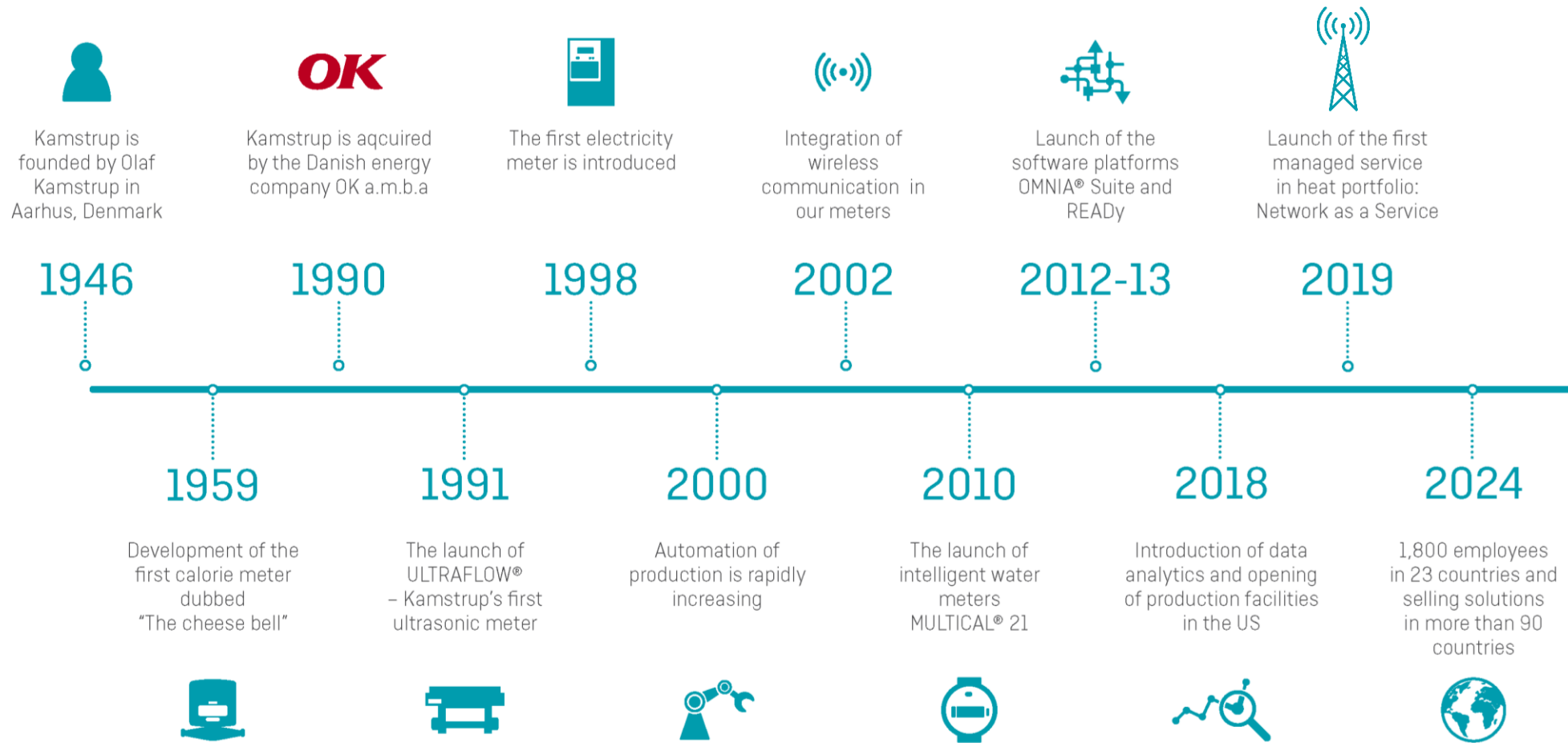
meters installed
around the world

Up to

11.2%

of turnover invested in R&D

Kamstrup's significant milestones





Transformation of district heating & cooling

"heating and cooling accounts
for about

50%

of the global final energy
consumption"

"Energy demand for cooling
is expected to grow by

45%

by 2050 compared to
2016 levels"

Source: [irena.org](https://www.irena.org)

EU TARGET:

Europe fully decarbonized by 2050
using 100% renewable energy

Big attention on district heating and on
the growing district cooling in electrifying
this consumption.

Utility operations are growing and facing new challenges to meet future demands:

Green

Integrate renewable heat sources and surplus heat

Grow existing networks and build new ones

Reliable

Provide the highest level of security of supply under dynamic conditions

Optimize utilization of existing infrastructure

Efficient

Reduce temperatures, increase energy efficiency

Improve the thermal efficiency of buildings and heat installations

Activate buildings in the energy system

Affordable

Become highly optimized and reduce energy need

Cost competitive in comparison to alternative heat sources

Customer centric

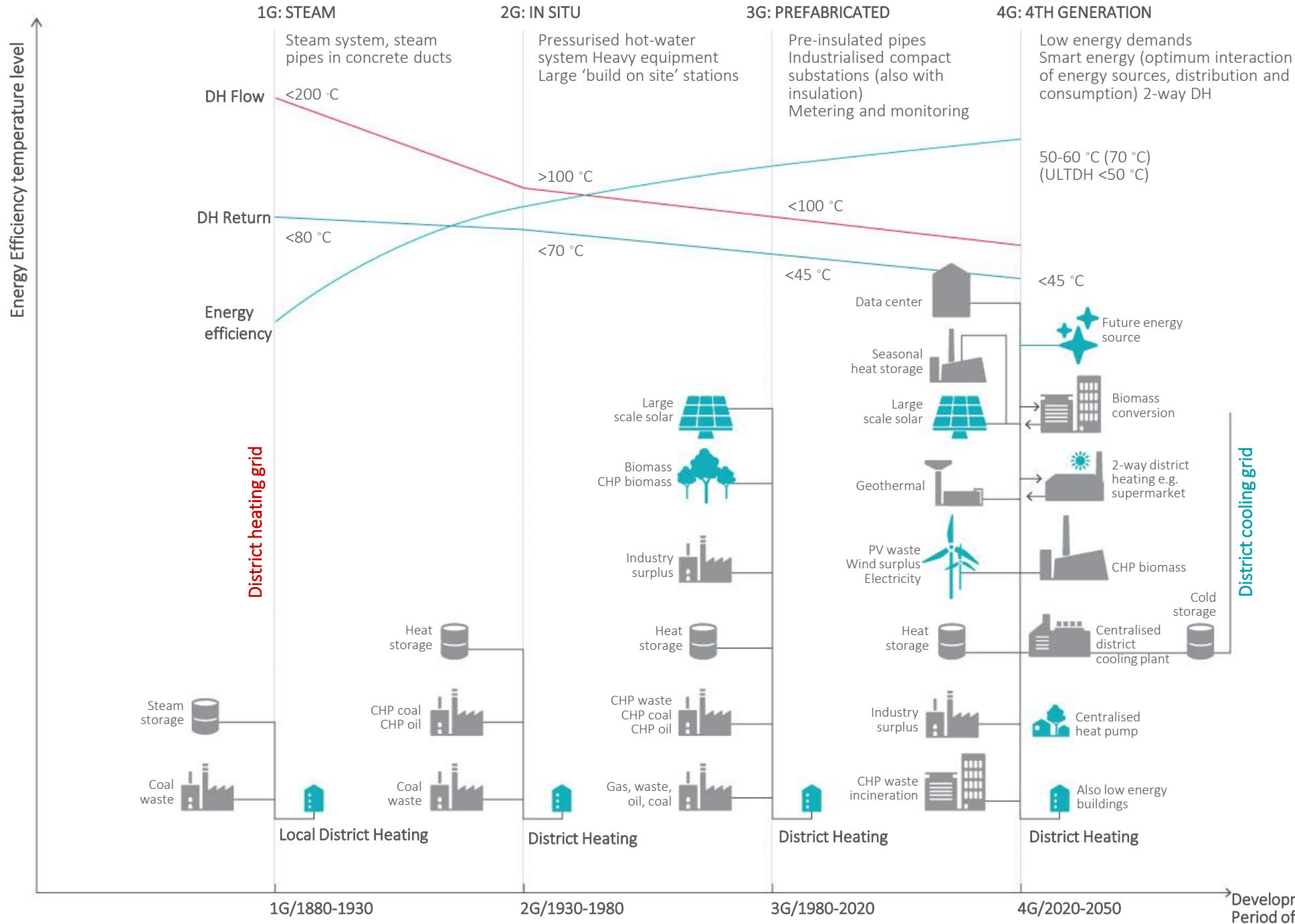
Create attractive business models and service offerings

Engage customers to reach energy efficiency goals



The complexity of supplying district energy is increasing with the 4th generation of district heating and cooling.

It's time to take the next step towards **smart heat & cooling solutions**.





The core of the 4th generation
of district heating & cooling:
DIGITALIZATION

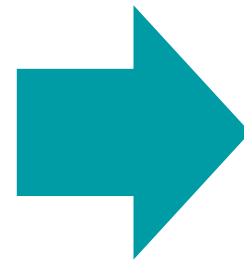
An energy transition requires a twin transition



This quote sums up the
"recipe" of energy transition:

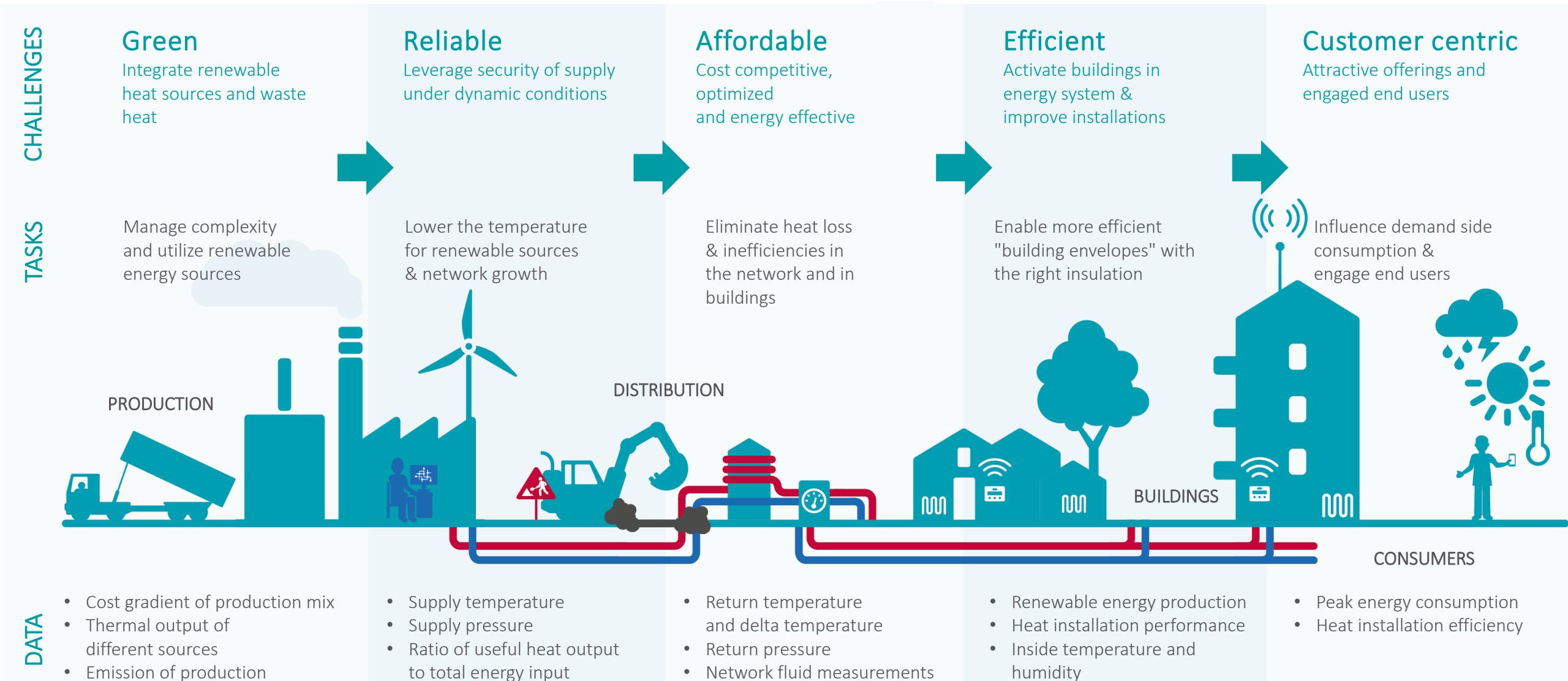
*"Save **30%** on energy consumption
(in buildings and on the demand side)
and convert the rest to **renewable energy**"*

-Brian Vad, Energy Prof. at AAU



**ITS SUCCESS RELIES
ON MEASUREMENT.**

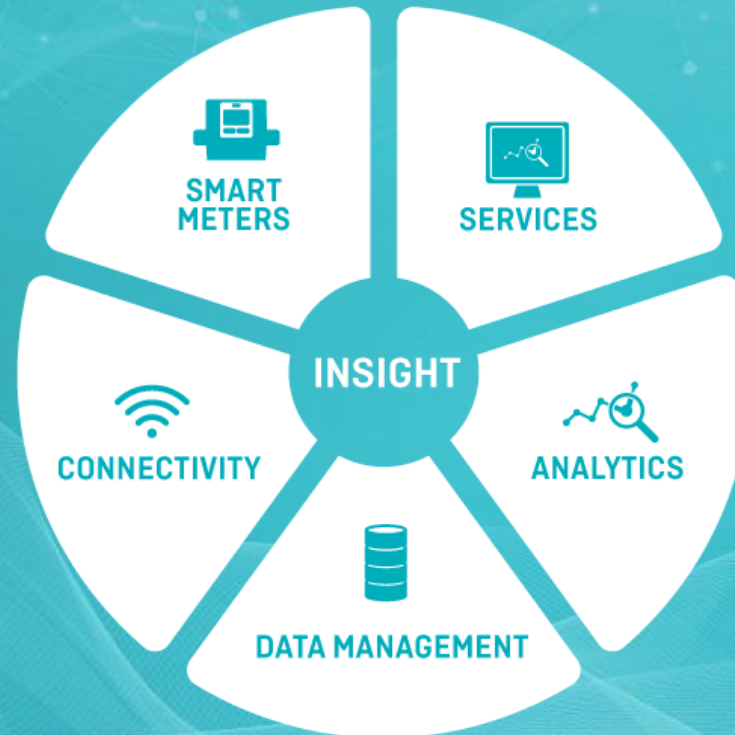
Digitalization is the key enabler for decarbonization



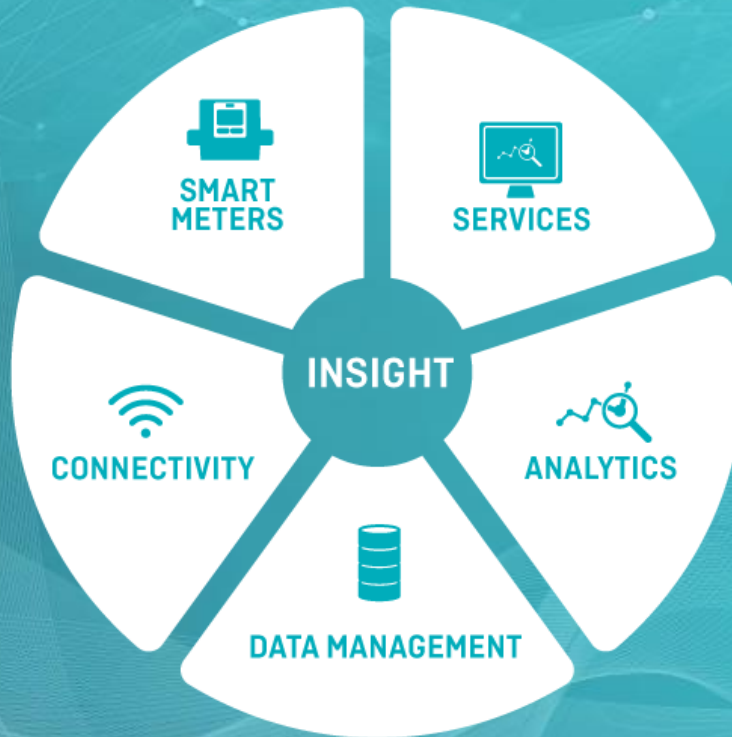


kamstrup

Smart solutions for district heating and cooling



RELIABLE // OPEN // SCALABLE // VALUABLE



RELIABLE

With data as the cornerstone of our solutions, we place **security, accuracy, and reliability** at the core of our offerings and long-term business relationships.

OPEN

With our versatile **and interoperable portfolio**, we help you unlock the full potential of best-of-breed infrastructure by converting your meter data into informed, timely decisions.

SCALABLE

Whether you need **a single thermal energy meter or a complete, intricate system**, we have just the right solution with the most efficient technology designed to withstand future challenges.

VALUABLE

With accurate and frequent data as the backbone, we transform your operation into an efficient, sustainable, and customer-centric business, enabling **real value gain from your meter data**.

kamstrup



RTO

Return Temperature Optimizer



Heat Intelligence



READY



M-Bus
wireless

M-Bus

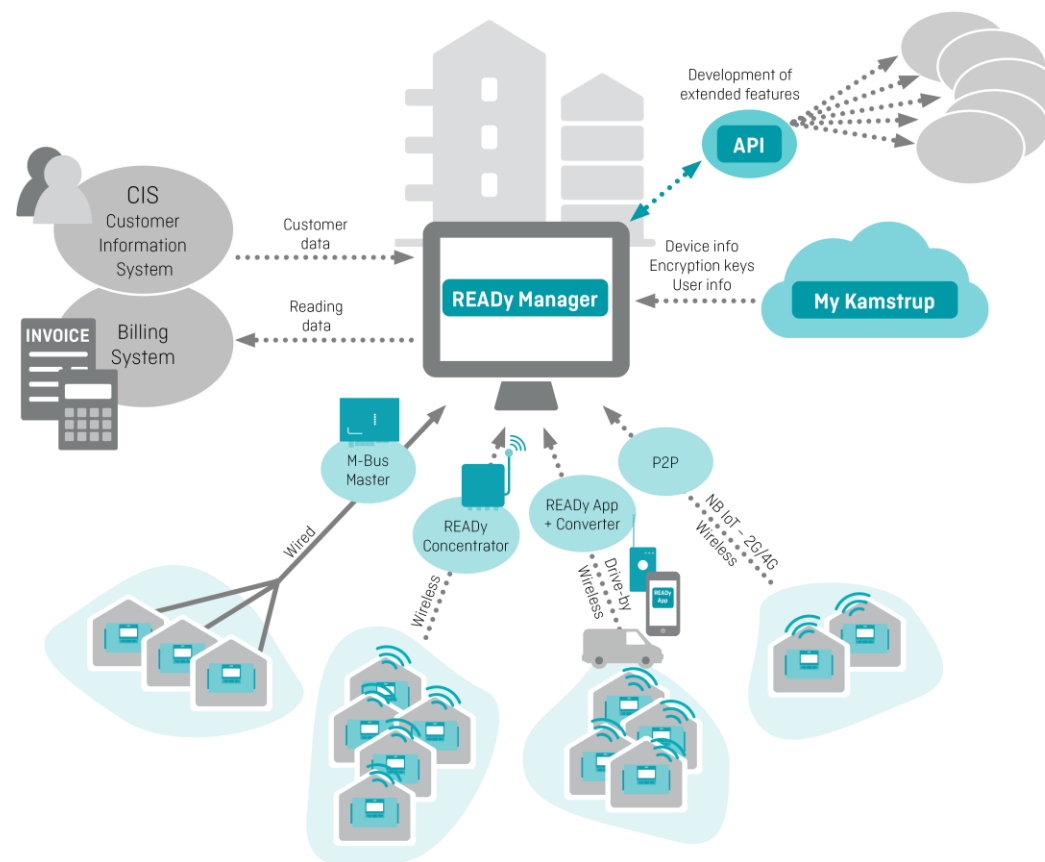
NB-IoT

LoRaWAN

READY as foundation for optimization & troubleshooting of DH systems



Overview of READy solution



Why READy Suite?

kamstrup



Because with the Kamstrup READy Suite you can:
configure, manage and monitor your network
remotely:

- Receive automatic and reliable remote meter reading at very long ranges, using one of the data acquisition methods, namely Drive-by/Walk-by, fixed wireless M-Bus/linkIQ network or wired M-Bus, P2P.
- Flexible start-up, without expensive investments, you can initially choose the Walk-by/Drive-By solution, and later switch to the fixed network by gradually adding radio network elements, or by replacing only the modules with the P2P-2G/4G or NB-IoT solution.
- Transforms raw data into actionable insights via the at-a glance dashboard
- Enjoy data immediately in a flexible, future-proof solution
- Protect and align your utility with a secure, best in class cloud based solution
- Ensuring a stable database for other software platforms you use, using the READy Manager API interface.

...

Why READY Suite?

kamstrup



...
In addition, READY offers a multitude of other great features.

System Security & Support:

- Best in class Fixed network support
- Cellular installation, configuration and support
- User management with roles and permissions
- API access

User Experience & Accessibility:

- Intuitive, icon-based navigation
- Map visualization of meters and infrastructure
- READY mobile app for Drive-by reading, installation, logging and verification

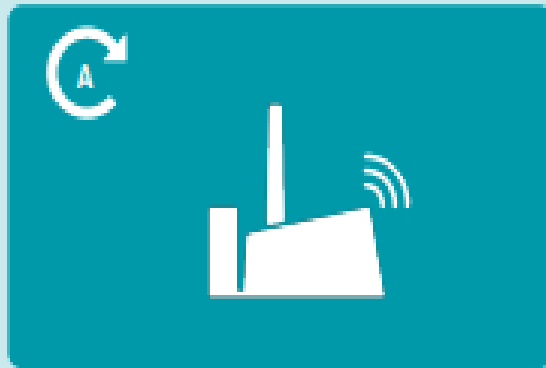
At or Near Real Time Data & Analytics:

- Analytics optimized with machine learning/artificial intelligence
- Automatic import and export
- Water loss analysis
- Meter exchange

Incident Notifications:

- Consumption alerts
- Meter event notifications via text message or email
- Meter configuration of leak, burst and temperature thresholds over the air and much more...

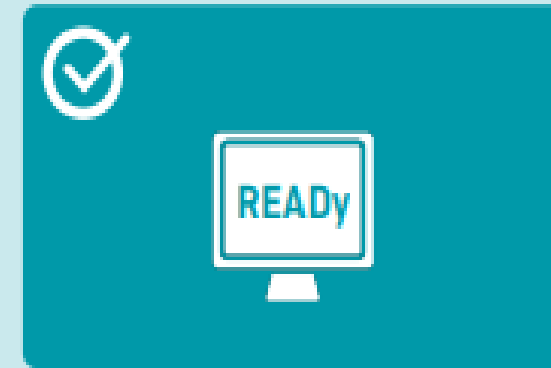
Simply log-in to collect & access meter data



The meters are read remotely and automatically by the utility's communication network



The readings are automatically available in the READY software



Simply log in to the READY software via desktop or mobile app to access meter data



Use READY's mobile app to read meters from the street as a **fall-back option**.

READy Suite in very short

kamstrup

From raw data to actionable insights

Collecting data is one thing. Converting raw data from smart meters into actionable insights related to KPIs is quite another.

Dashboard overview:

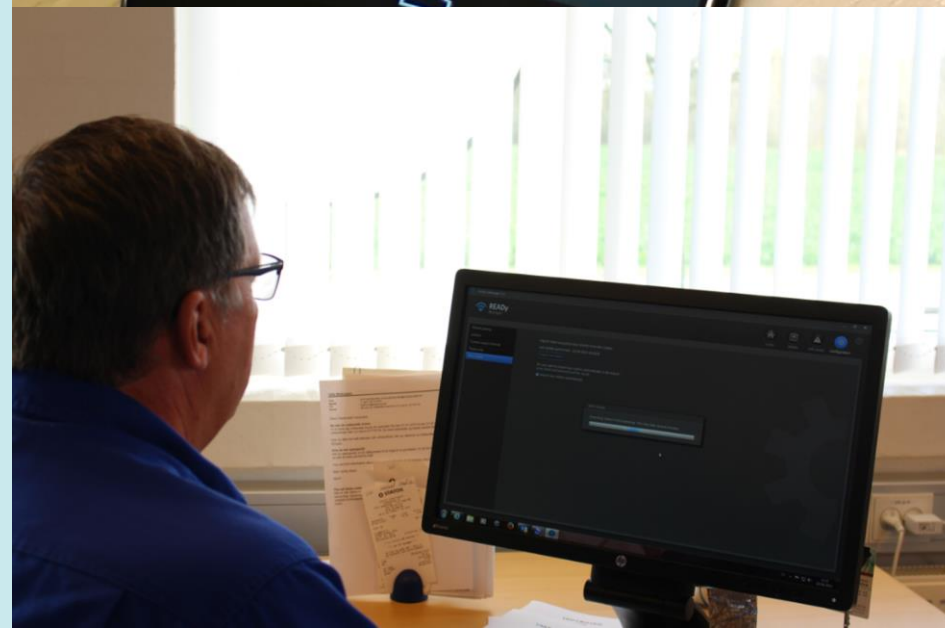
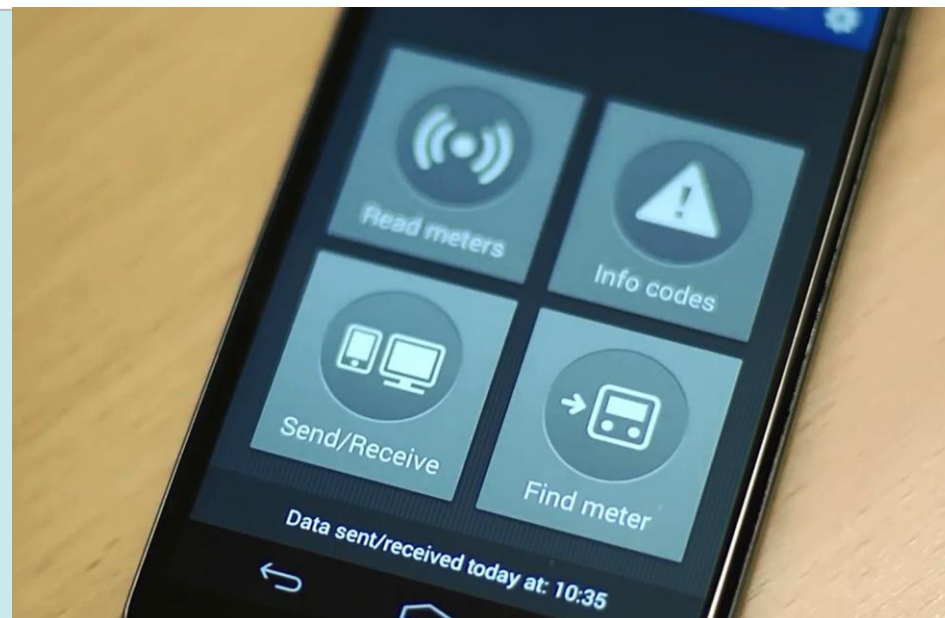
The **performance dashboard** displays key performance indicators in a quick access, actionable format.



The **customer service overview** that enables you to respond to inquiries with data and personal context.



The **alarm module** with active alarms in your system that enables you to investigate, prioritize and take action.



What is READy Hosting and why is it important?



READy Hosting is a way of handing over the system software, security and data storage to Kamstrup.

This means that you can focus on your core business instead of using your time to:

- install, configure and maintain your READy software and metering data
- prevent data loss
- deal with server monitoring and system uptime
- worry about GDPR compliance
- be a specialist in IT security.

But wait, there is more...



What is READy Hosting and why is it important?

kamstrup



When Kamstrup is in charge...

of your operating environment, we are able to offer first-class support, top-quality performance and extra effective features such as:

- alarm notification via SMS/email
- map-based network monitoring
- flexible access to your data for other systems (API Access)
- Kamstrup linkIQ® network
- user identification and access control
- NB-IoT network.

Thousands of READy customers have already selected a READy Hosting solution and for good reason.

Here are six ways hosting can help your business thrive:

READy Hosting ensures GDPR compliance



If you are located in the EU, you must comply with the General Data Protection Regulation (GDPR). This means that when you store data, you must be able to prove GDPR compliance to the "data protection authority". If you are not compliant, it can get quite expensive.

With a READy Hosting solution, you do not have to worry about GDPR. Kamstrup is ISAE 3000 certified (handling of personal data) and ensures that you are GDPR compliant.

What is READy Hosting and why is it important?

kamstrup



READy Hosting keeps your data safe



Data needs proper security. Data could be lost or hacked if proper security measures are not taken to protect them. Also, it is important to always back up your data.

Kamstrup is ISO 27001 certified (general IT security) and data is stored in an ISO 27001-certified environment.

With a READy Hosting solution, Kamstrup takes responsibility for the full IT security, such as firewalls, anti-malware systems, encryption of data and physical access.

We continuously monitor and back up your system to ensure that, in the event of any data corruption, Kamstrup can restore your data, minimise the consequences and normalise operations as quickly as possible.

READy Hosting lets you focus on your core business



With IT security, system maintenance, backup, data recovery and GDPR compliance out of the way, you can instead focus on growing your business.

What is READy Hosting and why is it important?

kamstrup



READy Hosting offers additional features

A READy Hosting solution gives you access to extra time-saving and effective features:

- **Notifications**

Automatic notification of important meter alarms in your supply network. The notifications are sent via email or SMS.

- **Network Monitor**

A tool for monitoring the reading performance of meters in your network. Network Monitor has a map display of your meters and infrastructure items and enables you to create action lists.

- **API Access**

A secure and flexible access to data in READy that enables you to share it more easily with other applications and services such as billing systems and customer portals. For example, if you have or develop a consumption app, the API can be used to continuously send updated consumption data to the consumer.

- **Kamstrup linkIQ® network**

A linkIQ® network has superior coverage and thereby enhanced system performance. It is designed to collect data from the latest generation meters while being backwards compatible with wireless M-Bus meters.

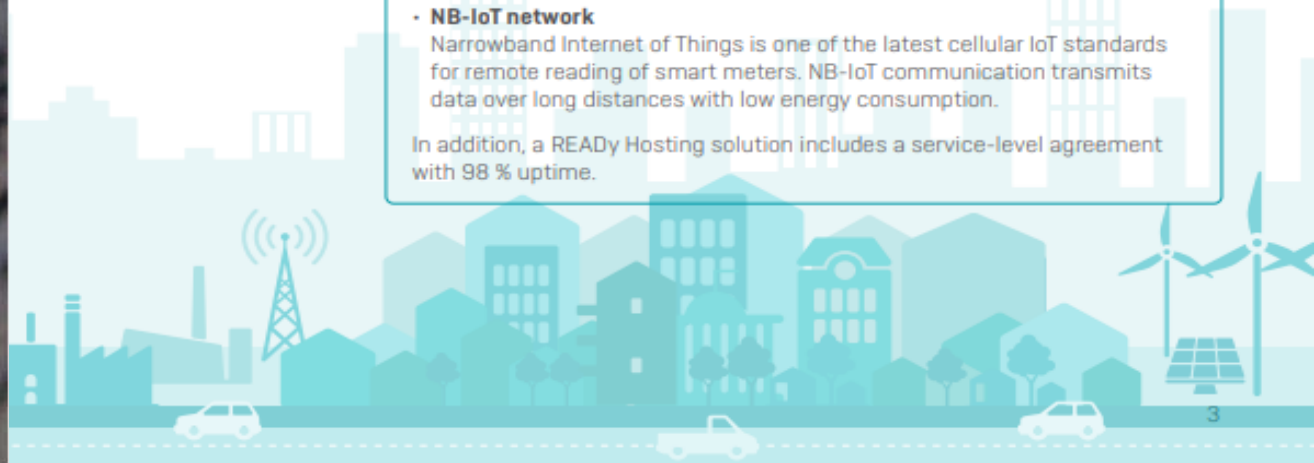
- **User identification and access control**

User login with role-based access to READy that enables you to control access to various operations and identify who performed them.

- **NB-IoT network**

Narrowband Internet of Things is one of the latest cellular IoT standards for remote reading of smart meters. NB-IoT communication transmits data over long distances with low energy consumption.

In addition, a READy Hosting solution includes a service-level agreement with 98 % uptime.



What is READy Hosting and why is it important?

kamstrup



READy Hosting is affordable



Not having to worry about fines for violating GDPR rules – or the cost of restoring hacked data, is one thing. Server investment is another.

The built-in database in a local READy installation is limited. If you run out of space, you need to invest in extra database servers. Running servers require large upfront investments. In addition to that comes the time and money spent on installation, operation, maintenance and integrity of the required IT platform that could have been used elsewhere.

This means that READy Hosting may be surprisingly affordable all things considered.

READy Hosting improves maintenance and support



When it comes to maintenance, Kamstrup offers regular updates to keep your site running smoothly. This includes software updates, security patches, and bug fixes. Regular backups are also important in case anything goes wrong.

With a local READy solution, you need to deploy new upgrades. If something goes wrong, you may experience prolonged support time since Kamstrup does not know your operating environment.

By combining data hosting and support at Kamstrup, you get better and faster support as Kamstrup has READy experts on hand that already know your operating environment.

Join thousands of other READy customers and enjoy the benefits of a READy Hosting solution.

READY

kamstrup



For additional questions,
we look forward to seeing
you at the workshop.

