IEA DHC Annex TS9: Digitalization of District Heating and Cooling:

- Improving Efficiency and Performance Through Data Integration

Annex presentation

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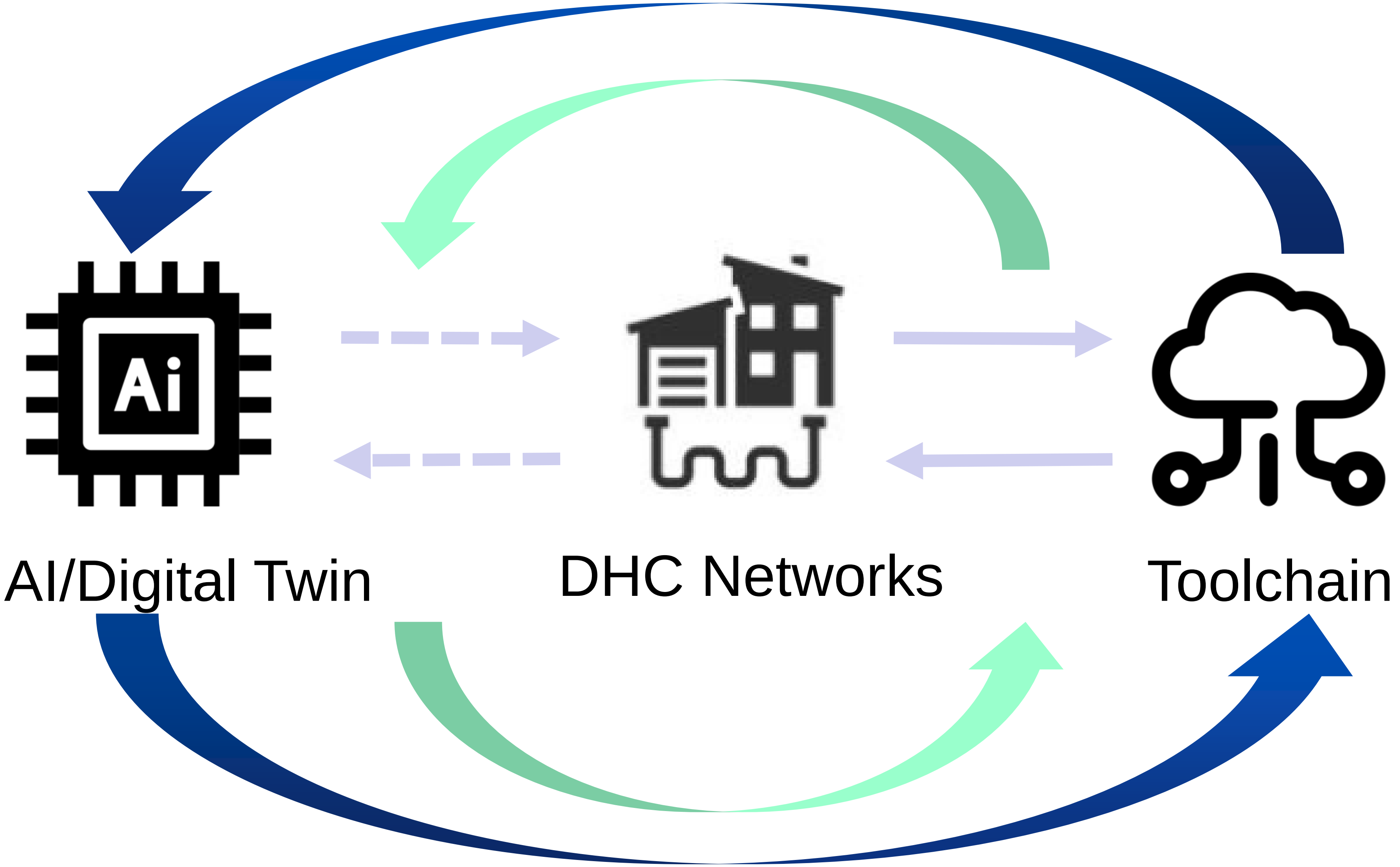
Background: Digitalization of DHC systems

- District heating and cooling networks were **traditionally** operated with a limited number of controls.
- A wider implementation of information and communication technologies, as in many other industries, opens up for better network management based on measurements.

- **Opportunities**:
  - offering flexibility by integrating digital processes and demand-side management
  - Enabling the integration of fluctuating heat sources (renewables)
  - New business models for district heating operators and utility companies

Digitalization Future and Challenges



Main challenges for the digitalization of DHC systems

#Challenge_1:

- Create awareness for the advantages of the integration of data and signal from different domain

#Challenge_2:

- Investigate solutions for interoperability, protocols and standardization of data communication between the involved components in DHC networks.

#Challenge_3:

- Evaluate non-technical barriers and enablers for digitalization processes in district heating and cooling schemes such as business models, legal aspects and policy instruments.

#Challenge_4:

- Provide an updated state-of-the-art overview of the digitalization of district heating schemes in terms of R&D projects, demonstrators and case studies

Main objectives of Annex TS9

- **Create awareness** for the advantages of the integration of data and signal from different domain
- **Investigate solutions** for interoperability, protocols and standardization of data communication between the involved components in DHC networks.
- **Evaluate** non-technical barriers and enablers for digitalization processes in district heating and cooling schemes such as business models, legal aspects and policy instruments.
- **Provide** an updated state-of-the-art overview of the digitalization of district heating schemes in terms of R&D projects, demonstrators and case studies, building further on IEA-DHC TS4.

Annex structure / subtasks

A: Digital Infrastructure

B. Application Interface

C. Management and Roadmap to Digitalization

D: Management, Dissemination and Reporting

Intended target audience for our activities

- Energy suppliers, utility companies and district heating network operators
- Component producers and engineering consultancies
- Branch organizations within the field of district heating
- Digitalization solution providers
- Policy makers

Annex TS4 Time schedule

2023		2024		2025		2026		2027		2028	
	x	x	x	x	x	x	x	x	x	x	
Definition		Prep.	Working Phase						Reporting		

May 2023: Approval to start the definition phase (DHC ExCo Meeting)
Sept. 2023: Start definition phase
Nov. 2023: Definition phase WS in Berlin
Dec. 2023: Approval to start preparation phase (ExCo meeting)
Jan 2024: start preparation phase (1/2 year)
Nov 2024: start working phase (annex text available)
July 2027: start reporting phase
June 2028: official end of the Annex

Cooperation with other initiatives

- **German Heat & Power Association (AGFW)**
  - Offer to support the upcoming Annex via different means
  - Strong interest in supporting the dissemination
- **DHC+**
  - Offer to support the upcoming Annex via different means
  - Strong interest to support the dissemination
- **Danish Board of District Heating (DBDH)**
  - Happy to support the Annex and dissemination
- **IEA EBC Annex 82 and 84 etc….**

AGFW

DHC+
TECHNOLOGY PLATFORM

DBDH

The group: Preparation meeting in Antwerp, May 27-28, 2024

Contact us!

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