SF 64: Use of smart water grid-technologies

Fr	B	C	NY	S	T	Total
6	5	2	8	8	7	36

Beispiel:
Singapore: an important issue due to the water shortage. There is a pilot project relating to this topic in Singapore („WaterWise@SG")

Tokyo: There is still no smart water grid in place; efforts are being made towards one.

1. Differentiated description of the key field

The idea of smart water metering or smart water grids embraces various areas (in aggregated form, e.g. the networking of information regarding drinking water reservoir filling levels, the cross-linking of water and energy networks [water tank as energy reservoir], online integrated water meters close to the consumer). This is still a fledgling issue and currently there are only mainly pilot tests. At the same time, the discussion process regarding this topic's potential – especially in light of the topic of „big data" between the authorities responsible for water infrastructure, technology providers and service providers and academic researchers – has already begun.

The basis of smart water metering is the decentralized monitoring of water consumption that is as widespread as possible and which can be read remotely, e.g. via water meters near the consumer whose data can be accessed online.

The topic is inspired by the idea of the smart energy grid; at the same time, though, the purpose and benefits are different in both areas. While smart energy grids are all about the best possible distribution of the energy from the energy producer to energy consumer, the benefits of smart water grids are, on the one hand, the ability to better monitor the water infrastructure network (in real time) and thus, for example, to be able to quickly detect leaks (or, with the inclusion of surface water levels, flooding) and to react accordingly and, on the other, the technology offers consumers the chance to make informed and qualified decisions about their own consumer behaviour.

2. Reference to sustainability:

There are several potentials as regards moving towards more sustainability in cities. There is the option of increasing the resilience of a city by, for example, better monitoring of the effects of heavy rainfall or by the possible adjustment of reservoir water levels due to real-time monitoring and the faster response option associated with this.

Furthermore, by comparing the amount of water fed into the drinking water distribution system and real-time consumption data, the best possible monitoring of the drinking water distribution system can then take place and people can react faster to leaks and thus prevent unnecessary water loss and damage caused by underground water leaks.

Positive effects on consumer behaviour can also be expected thanks to a more mindful use of water resources

3. Relevance to industrial sectors?

Mobility:	None
Energy:	Low
Production & logistics:	Medium
Security:	High
ICT:	High
Water infrastructure:	High
Buildings:	Medium
Governance:	Medium

Brief description of the high level of importance:
• Direct impacts on a city's energy industry arise through energy efficiency and energy recovery in the field of water supply and wastewater disposal
• ICT is necessary to optimise energy efficiency and efficient recovery.

4. Impact (positive & negative)

Positive:
- Increase in the monitoring options
- Potentially positive influence on consumer behaviour
Negative:
- Considerable investment required

5. Implementation measures:

• Recognise the local pressure urgency of the problem
• Designation of possible technological and organisation measures to reduce the urgency of the problem
• Inclusion in the strategic planning for sustainable urban development
• Information about requirements
• Creation of incentives; if necessary, changing of the rules
• Regular review of the implementation status

6. Actors: Who can shape things?

• Private individuals, citizens: Individual implementation measures at the household and possibly at building level.
• Planners, contractors, construction companies: Development and application of approaches at the building, district and city level.
• City and maybe district administration: Definition of possible approaches to finding solutions, inclusion in the strategic planning for sustainable urban development, launch of information campaigns, creation of incentive mechanisms, initiation of implementations

7. Prerequisites:

8. Obstacles/barriers:

9. Indicators:

• Querying of the relevance of the topic in strategic urban planning (strategic plan, etc.).

10. Special features/remarks: