

## Municipal networks for mutual support - How can this contribute to the implementation of energy efficiency measures?

ENERDAY 30 September 2022

Uta Burghard, Markus Fritz, Fraunhofer ISI



# Municipalities play a crucial role in the transition to a low-carbon society



**Municipalities:** Major contribution to greenhouse gas emissions (Strasser et al. 2018), dominant role of urban political actors in the transition process (Cheung and Oßenbrügge 2020), potential to change citizen's behaviour.

## Drivers of the energy transition:

European, national and local climate goals and networks like the Covenant of Mayors.

- SEAP/SECAP (local)
- NECP/NEEAP (national)
- EU Commission

However, municipalities face a lot of **challenges**, including a variety of topics, targets, stakeholders, and market dynamics (Strasser et al. 2018).



<https://www.filmsforaction.org/>

## PATH2LC project brings together municipalities on regional and international level to support them in the process



**PATH2LC:** Public Authorities together with a holistic network approach on the way to low-carbon municipalities

**Goal of the project:** Support municipalities on regional and international level in the process of implementing their existing Sustainable Energy (and Climate) Action Plans (SEAPs / SECAPs).

**‘Learning Municipality Network’ (LMN) approach:** Link stakeholders in public authorities among municipalities enabling peer-to-peer learning and to increase the engagement for the energy and climate transition.

[www.path2lc.eu](http://www.path2lc.eu)

Project lifetime: September 2020 - August 2023

H2020 project



# Five existing networks of municipalities in five countries



Italy (4 municipalities)



Greece (8 municipalities)



Portugal (9 municipalities)



Netherlands (4 municipalities)



France (4 municipalities)

## One part of the scientific accompanying research is the technical monitoring



**Goal of the technical monitoring:** Progress of each participating municipality, and the Learning Municipality Network as a whole. Asses impact of the LMN on the measure implementation.

**Procedure:** annual survey (after 6, 12 and 24 months of the project):

- Monitoring of the implemented measures and the achieved energy and CO<sub>2</sub> savings.
- Determine the implementation status of the measures defined in the climate plans.

**Data collection:** online questionnaire and Excel file, which was provided in the local language.

- Questionnaire was completed by representatives of each municipality participating in the networks.
- The measures implemented are recorded, including **energy savings**, increase in the **share of renewable energy** and **reduction in CO<sub>2</sub> emissions**.

This presentation provides the results of the **monitoring from 2021 & 2022**.

## Data base and monitoring results



# 351 measures represent the data base



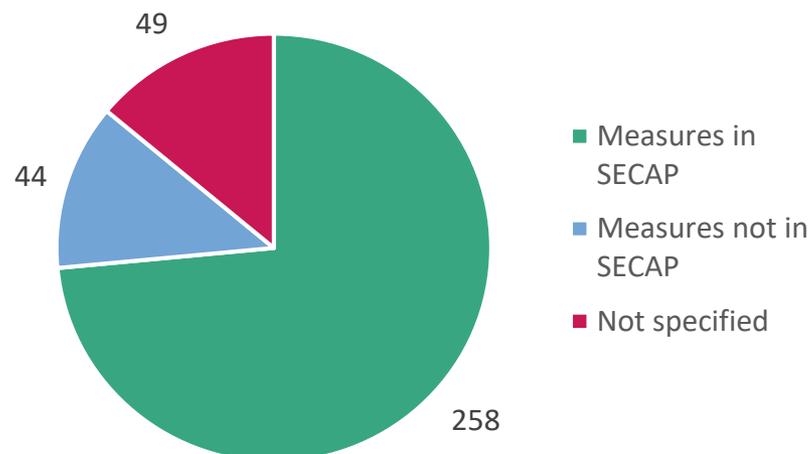
**Database:** Measures from **22 municipalities** were collected (in total: 29 municipalities).

In total: **351 energy-related measures** (technical and non-technical measures).

Data quality:

- 297 (85%) without additional **information on energy savings** and 54 (15%) with additional information on energy savings.
- 259 (74%) without **information on the energy carrier** and 92 (26%) with information on the energy carrier.
- 162 (46%) measures without **information on the year of implementation**.

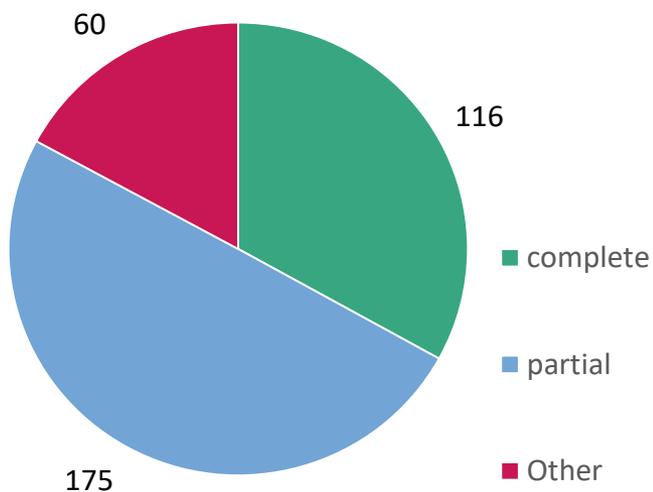
Measures included in SEAP/SECAP



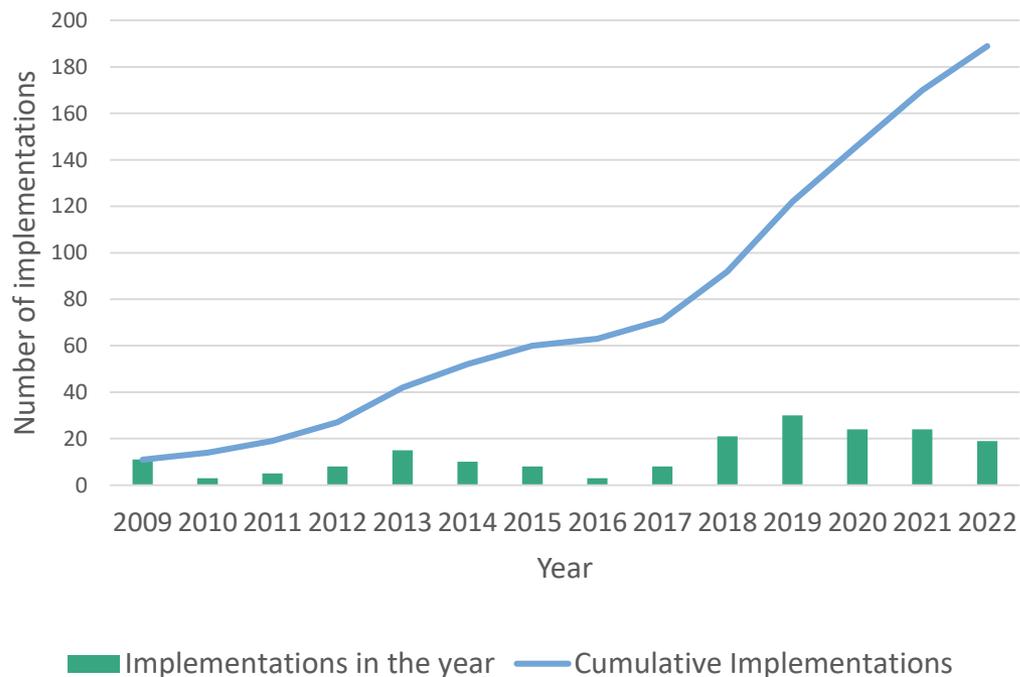
# A third of the measures have been fully implemented



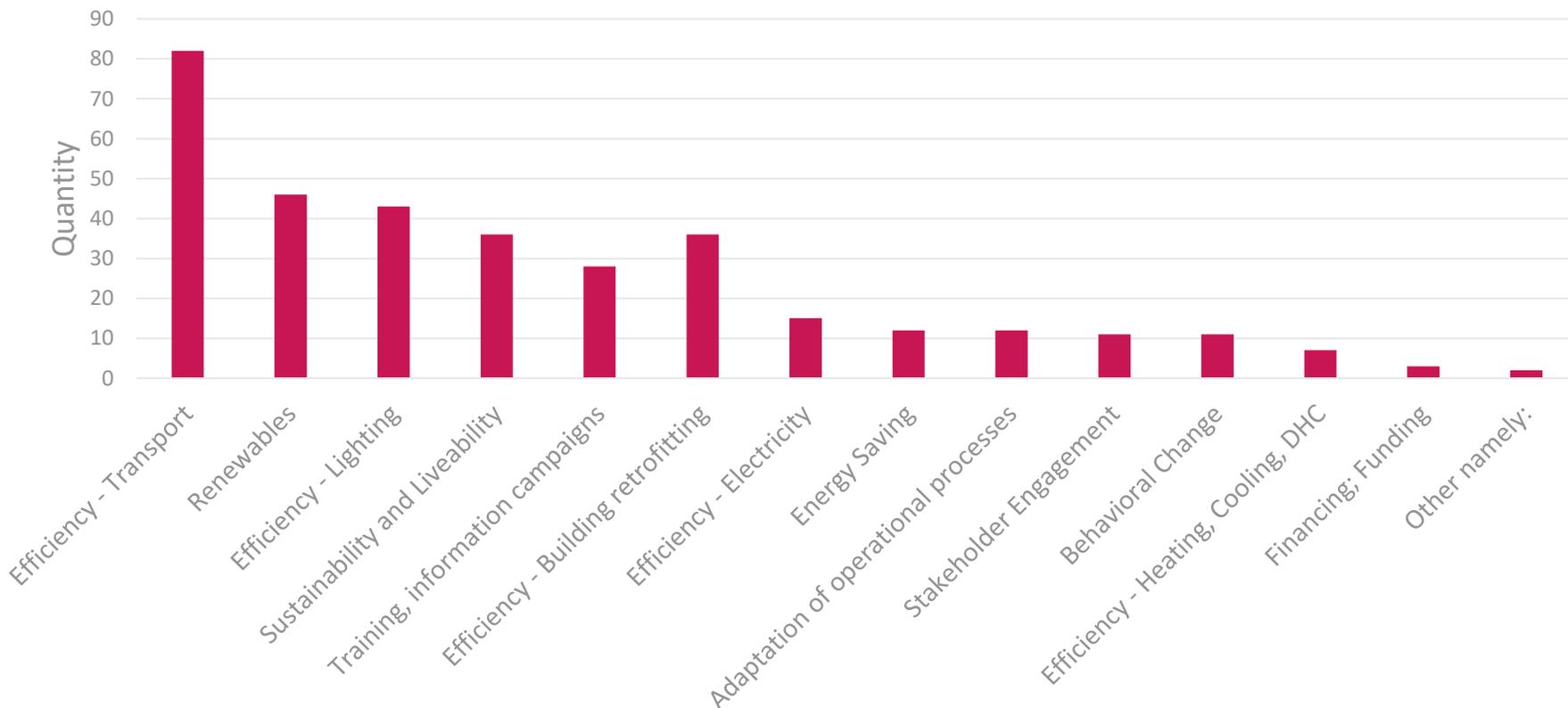
Implementation status



Implementation year of implemented measures

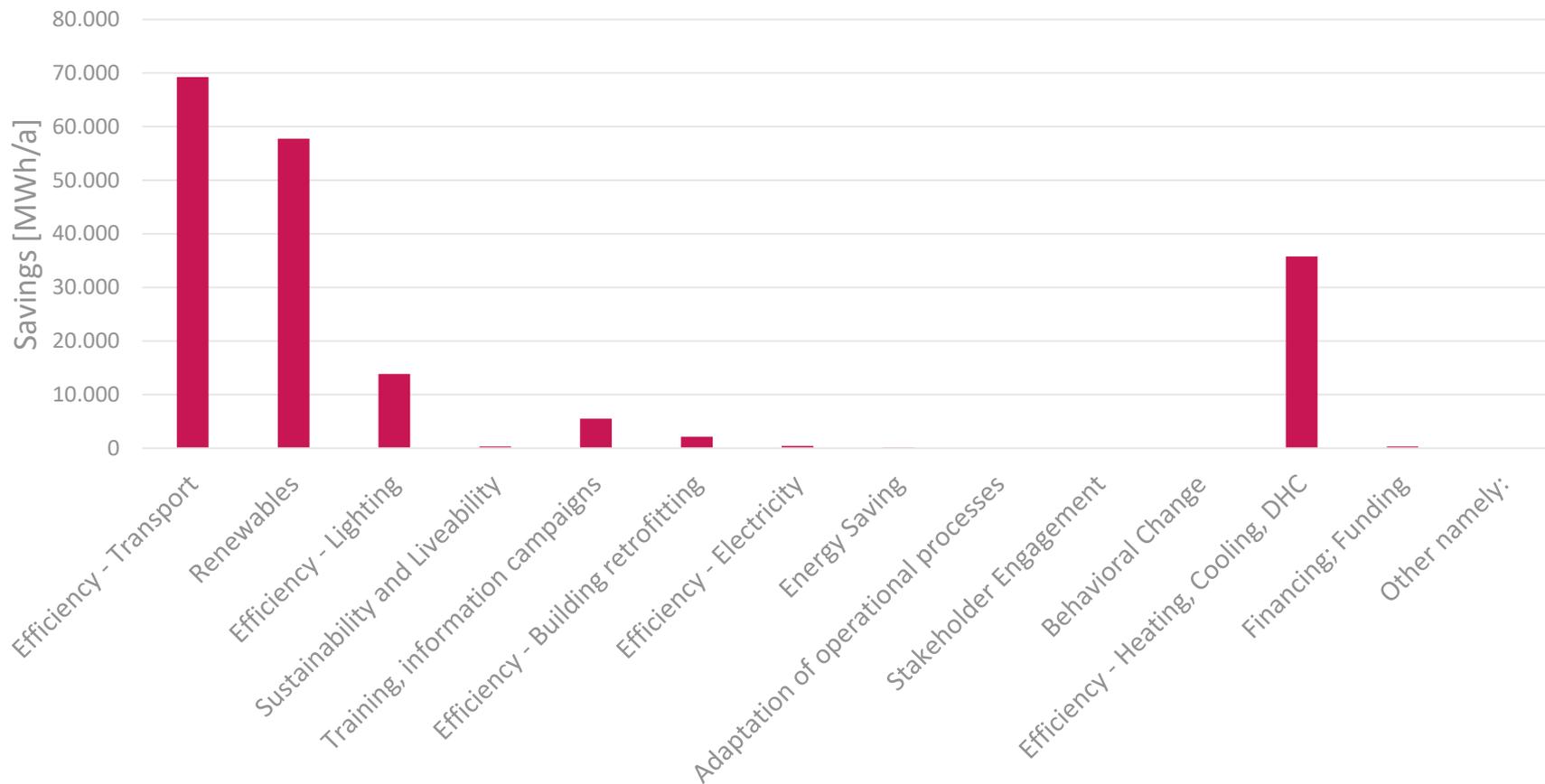


# There is a clear focus on transport, renewables and lighting measures



n=351 measures

# Few measures can generate large energy savings

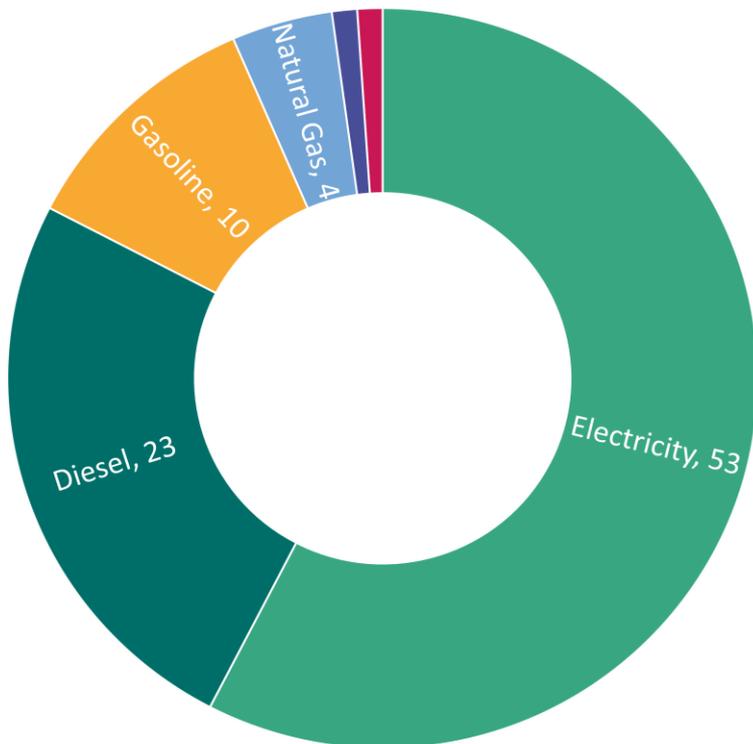


n=54 measures with information on savings

# Most savings and most measures were implemented in the electricity and transport sectors

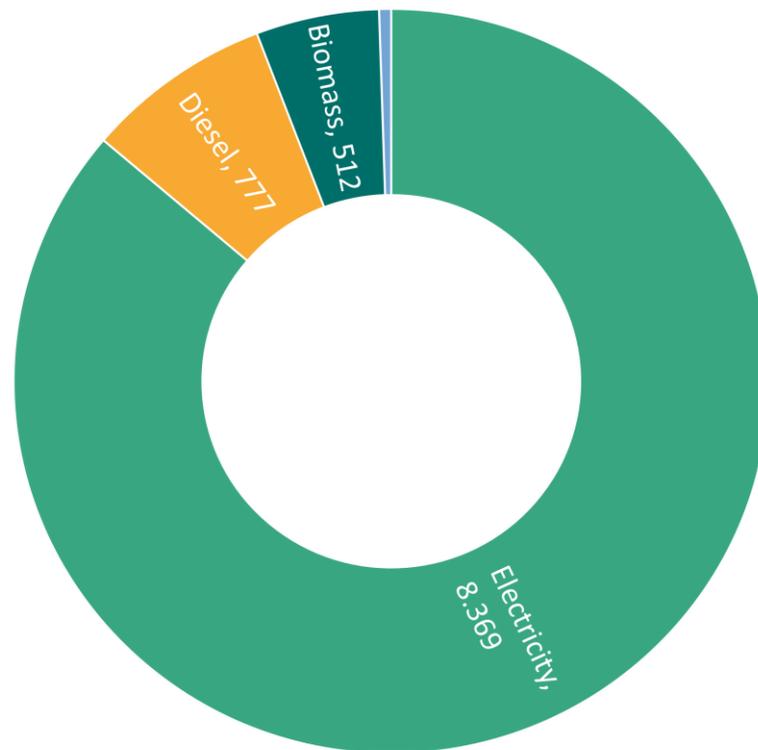


Quantity of measures by energy carrier



n=92 measures with information on energy carrier

Energy Savings in MWh/a

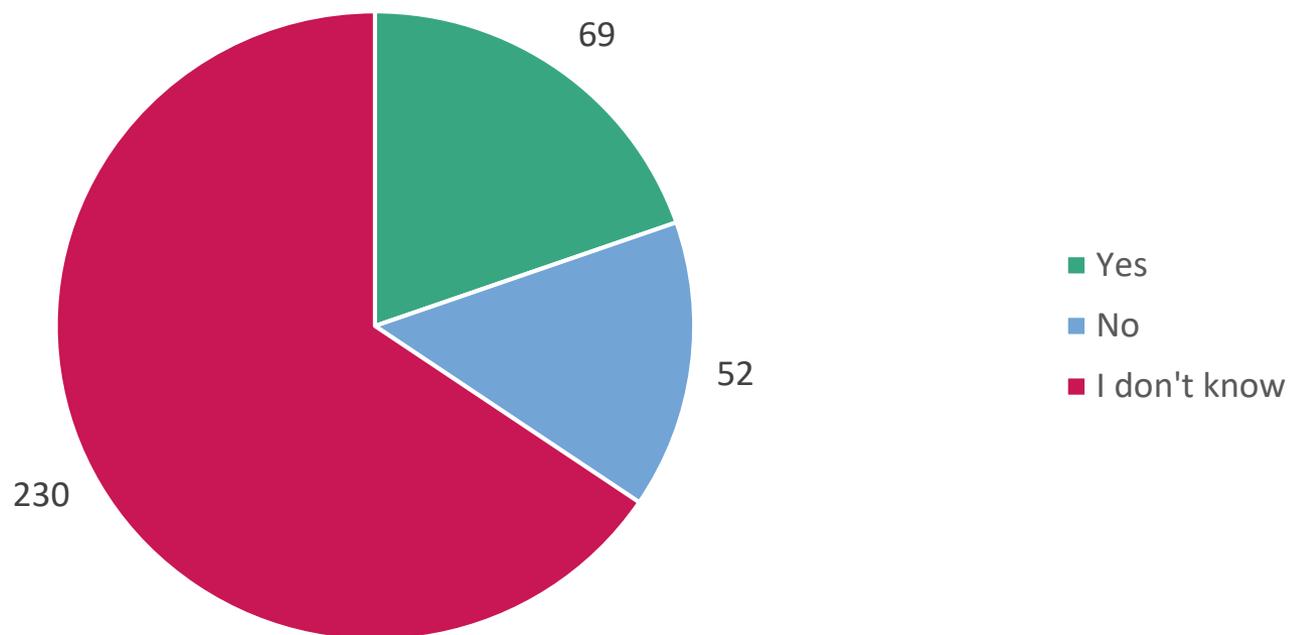


n=54 measures with information on savings

# For around 20% of the measures funding was received



Have you received funding for the implementation of this measure?



## Discussion





Municipalities mostly implement **measures from the SE(CA)Ps**, but also pursue measures that are **not part of a climate plan**

- Climate plans can act as a driver for the transition, but not in every case.

Municipalities **focus on transport, renewables and lighting**. Fewer measures were implemented in the area of heating and cooling, building retrofitting or social measures like stakeholder engagement.

- Focus so far on measures that seem to be easier to implement.
- Benefits of measures such as stakeholder engagement are more indirect and maybe not that obvious for municipalities.
- For social or non-technical measures, it is sometimes difficult to indicate savings, although these measures are often decisive for large savings.

Only some of the measures received **funding**.

- Lack of knowledge or awareness in the municipalities regarding funding possibilities

# Methodological discussion and outlook



**Methodological discussion:** Challenges in **obtaining data from municipalities** -> data often **incomplete**.

Possible reasons:

- Lack of **financial and human resources** in municipalities.
  - Challenge to identify the person in the municipalities to complete the questionnaire.
  - Responsibility within small municipalities in the field of climate and energy often not clearly assigned or distributed across different offices and departments.
- The selection of the categories of the measures is sometimes difficult and sometimes somewhat arbitrary. For future questionnaires, this selection should be simplified.

Due to (still) limited data base the impact of the project can not yet be determined.

**Outlook:**

- PATH2LC project raises awareness for the energy transition on a municipal level.
- Municipalities appreciate peer-to-peer learning as part of the LMN of PATH2LC.
- Impact of the project might be more obvious in the longer run.



Thank you. Any questions?

Uta Burghard

Markus Fritz

Fraunhofer Institute for Systems and Innovation  
Research ISI

[uta.burghard@isi.fraunhofer.de](mailto:uta.burghard@isi.fraunhofer.de)

This research was funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 892560.