



Università
Ca'Foscari
Venezia

PROJECT ACRONYM AND TITLE: DIGITA - DIGitalization for climate-resilient households. Advancing empirical evidence of home energy innovation in ITALY.

FUNDING PROGRAMME: PRIN 2020

HOST DEPARTMENT: Department of Economic

SCIENTIFIC RESPONSIBLE: Enrica De Cian

FINANCIAL DATA:

Project total costs	Overall funding assigned to UNIVE
€522.048,00	€145.000,00

ABSTRACT:

DIGITA will study whether and how digital technologies and home energy innovations increase Italian households' resilience concerning environmental risks, in the context of the transition towards a climate-neutral economy and the aftermath of the COVID19 pandemic. Environmental risks include climate change and air pollution.

To achieve this goal, the project will:

Characterize the availability and potential of digital technologies and home energy innovations through a mixed-methods analysis of the innovation system. This will go beyond a pure characterization of technical availability and will include a well-rounded understanding of the role of different actors and policies and institutions supporting the innovation and diffusion of digital technologies for household resilience. A combination of frontier research approaches will identify the key levers and barriers for the diffusion of smart home energy technologies in Italy.

Empirically assess the drivers of and barriers to adopting home energy technologies to increase household resilience in Italy. Specific attention will be devoted to the role of inequality of opportunities to adapt; the extent to which the rapidly changing institutional setting due to digitalization and COVID-19 pandemic is widening the adaptation divide; and identifying policy solutions to overcome this tension.

Evaluate behavioral interventions in supporting the diffusion of digital technologies for smart resilience through big data analytics and behavioral science. High-frequency energy consumption data and a large scale randomized controlled trial in conjunction with a major energy utility will provide novel empirical evidence on the micro-behavior of households and their resilience strategies.

DIGITA will achieve its goal by (1) relying on original and detailed data sources and (2) combining a wide range of advanced research methodologies. DIGITA will use existing surveys and carry out a novel one; combine them with geospatial climate and pollution data and smart meter electricity usage; make use of detailed databases on patent statistics; carry out structured expert elicitations and large scale field experiments. DIGITA will combine qualitative and quantitative methods, including in-depth interviews, case study research, randomized controlled trials (RCTs), panel econometrics, big data analytics, machine learning, and other statistical techniques to track the adoption of digital technologies in residential buildings.

The results emerging from DIGITA will contribute to the design of novel policy interventions to increase Italian households' resilience through the use of digital home energy technologies in the context of the transition towards a net-zero economy and society. This will help catalyze behavioral and technological responses in a country characterized by high exposure to climate and air pollution risks and a deep socio-economic and digital divide.

PARTNERSHIP:

1 Politecnico di Milano	Milano (IT)	Coordinator
2 Università "Ca' Foscari" VENEZIA	Venezia (IT)	Partner
3 Università degli Studi di Brescia	Brescia (IT)	Partner