



# DRIVE

[www.h2020-drive.eu](http://www.h2020-drive.eu)

## DEMO SITES

DRIVE will demonstrate the effectiveness of the proposed flexibility management platform through a wide set of validation activities involving 6 pilot sites and globally covering all services within the DR value chain.



## WHAT IS DRIVE

DRIVE links together cutting-edge science in artificial intelligence, forecasting and cyber security with emerging innovative SMEs making first market penetration in EU DR markets. In doing so, near market solutions are strengthened with innovative functionalities that support a vision of an “internet of energy” and “collaborative energy network.” DRIVE uses artificial intelligence to bring decentralized management and DR services to prosumers, grid stakeholders and distribution system operators.



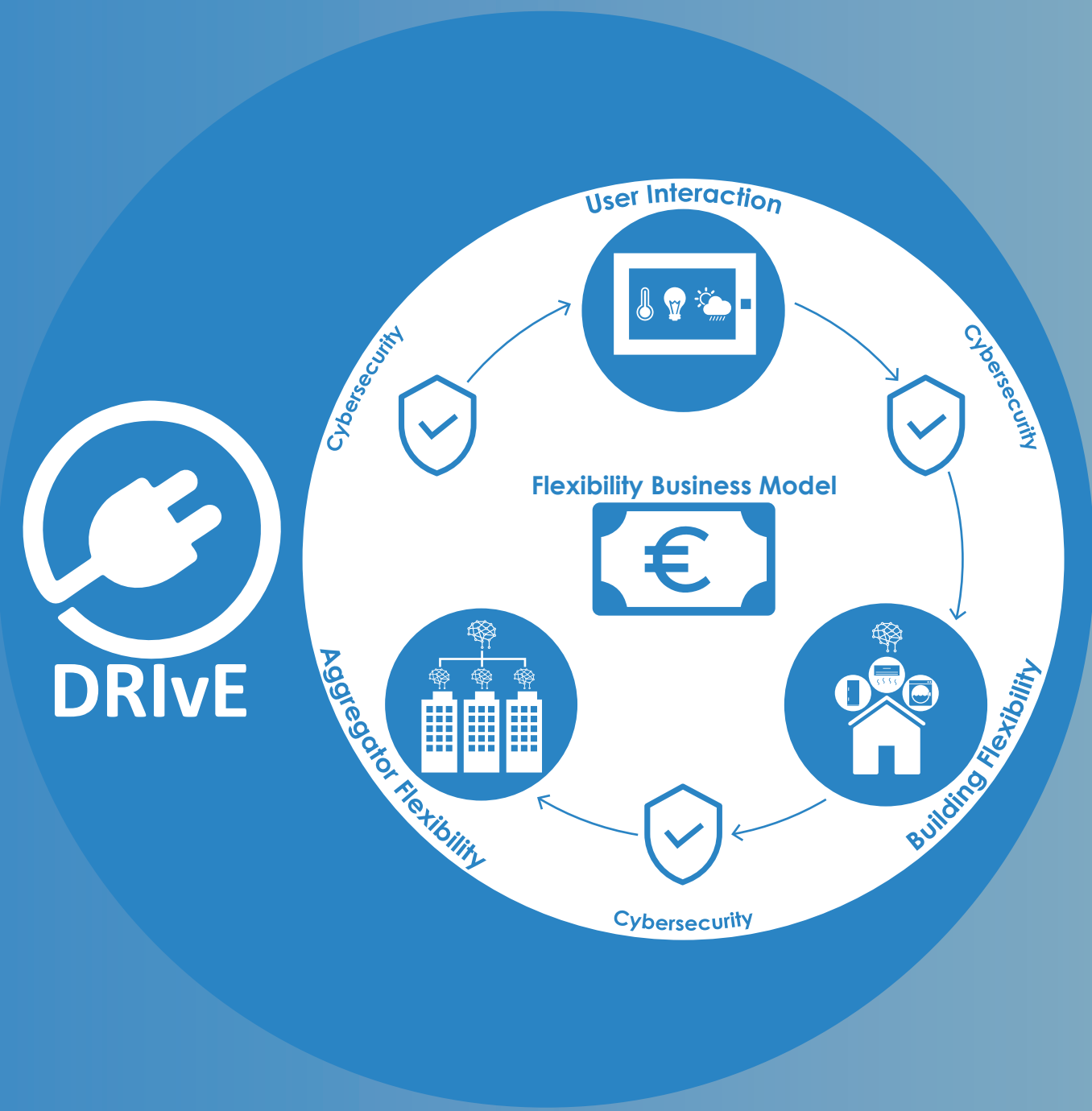
## DRIVE'S OBJECTIVES

- Unlock DR potential in residential and tertiary buildings through low cost solutions that are universally interoperable, integrating innovative load prediction and optimization algorithms
- Optimize distribution grid flexibility through an integrated Multi-agent based Demand Response ICT platform for aggregators integrating last advances in distributed real-time control architecture, artificial intelligence and communications
- Demonstration of secure communication through the design and development of cyber-security components for Smart Grids
- Engage and stimulate customers to participate in DR programs through a consumer portal

## WHY DRIVE

It is widely recognised that increasing flexibility is key for the reliable operation of future power systems with very high penetration levels of Variable Renewable Energy Sources (VRES). Flexibility is the ability of a power system to maintain continuous service in the face of rapid and large swings in supply or demand. The most significant source of flexibility in a future scenario with high penetration of VRES is Demand Response (DR). The new challenge is to unlock the very high potential of DR in the distribution grid where the main sources of flexibility are the residential and tertiary buildings, representing 70% of the total DR potential. DRIVE will unlock the Demand Response potential of residential and tertiary buildings in the distribution grid through a comprehensive platform the seamlessly existing assets and buildings to achieve optimal operations in the next generation Smart Grids, paving the way to a fully deployed DR market in the distribution network.

## DRIVE'S PROJECT PLAN



To break out of the current status quo, DRIVE will develop and validate a fully-integrated ICT infrastructure consisting of interoperable DR -enabling and Energy Management solutions for residential and tertiary buildings and platform for effective and secure management of energy flexibility at the level of the distribution grid. The DRIVE underpinning process will consist of 3 phases:

1. Unlock DR potential of buildings
2. Enable effective and secure decentralised management of the grid
3. Make a synergistic use of validation activities to boost DRIVE development.

## PROJECT FACTS

**Title:** Demand Response Integration Technologies  
**Acronym:** DRIVE  
**Type of action:** Research and Innovation Action  
**Budget:** € 3.955.258,75  
**Duration:** From December 2017 until November 2020 (36 months)



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