**SELFNET** is driven by use cases designed to address major network management problems through innovative mechanisms for:



**SELF-PROTECTION** Capabilities against distributed cyber-attacks



**SELF-HEALING** Capabilities against network failures



#### **SELF-OPTIMIZATION** Capabilities to dynamically improve the performance of the network and the

QoE of the users.



## AT THE MACRO LEVEL

// Enlarged market share for European network
operators and equipment vendors
// Strengthen the competitiveness of European
service providers

### AT THE OPERATIONAL LEVEL

// Improved scalability and extensibility // Reduced deployment time to less than 90 minutes // Reduced OPEX and CAPEX

### AT THE SOCIETAL LEVEL

// More secured and resilient network and services
// Enhanced QoE of the end users, bandwidth
usage and support for video applications
// Reduced energy consumption

# C O N T A C T S

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SELFNET is supported by the European Commission Horizon 2020 Programme under grant agreement number H2020-ICT-2014-2/671672

# 55 PPP

SELFNET is one of the first phase projects of the 5G Infrastructure Public Private Partnership (5G-PPP) website: **https://5g-ppp.eu/** 

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**Creative Systems** 

Engineering









FRAMEWORK FOR SELF-ORGANIZED NETWORK MANAGEMENT IN VIRTUALIZED AND SOFTWARE DEFINED NETWORKS

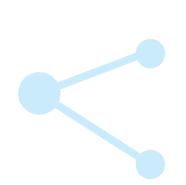




**SELFNET** is a 36 month project of the 1st Phase of 5G-PPP programme which address the Network Management strand.

START DATE July 2015

SELFNET will investigate innovative schemes to achieve advanced automation of complex **NETWORK MANAGEMENT** operations, providing a network infrastructures with new intelligence to automatization of different functionalities such as: network monitoring, network maintenance, deployment of network management tools and network service provisioning.



MANAGEMENT

INFRASTRUCTURE

MANAGED INFRASTRUCTURE

#### SELFNET EXPLORES A SMART **INTEGRATION OF STATE-OF-THE-ART TECHNOLOGIES IN:** // Software-Defined Networks (SDN) // Network Function Virtualization (NFV) // Self-Organizing Networks (SON) // Cloud computing // Artificial intelligence // Quality of Experience (QoE) PROPOSED SELFNET FRAMEWORK EXTERNAL USER SYSTEMS SON ACCESS SELFNET API BROKER LAYER VNF/APP ANALYZER SON AUTONOMIC MANAGEMENT AGREGATOR ONBOARDING AUTONOMIC LAYER MONITOR ORCHESTRATOR (NFVO+) ORCHESTRATION & MANAGEMENT LAYER SON CONTROL PLANE (VNF CONTROL) CONTROL LAYER SDN CONTROLLERS VNF/APP MANAGER (VNFM+) SERVICE VIRTUALIZED NETWORK SON VNF DATA PLANE (VNF DATA + CONTROL) NFRASTRUCTURE MANAGER LAYER VIRTUALIZED INFRASTRUCTURE & MEC (NFVI) INFRASTRUCTURE INFRASTRUCTURE LAYER NETWORK PHYSICAL INFRASTRUCTURE (NFPI)