

OBJECTIVES

Increasing design and runtime effectiveness of software-defined infrastructures to ensure high-performance execution over dynamic heterogeneous execution environments;

Increasing simplicity of modelling applications and infrastructures to improve manageability, collaboration, and time to market.

manageability

reliability



quality

performance

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Sodalite

**SOFTWARE DEFINED APPLICATION
INFRASTRUCTURES MANAGEMENT
AND ENGINEERING**

www.sodalite.eu

PROJECT

Simplify & fully exploit benefits of **heterogeneous** platforms

SODALITE aims to support development and operation teams in exploiting heterogeneity.

SODALITE provides application developers and infrastructure operators with tools that **abstract their application and infrastructure requirements** to enable simpler and faster development, deployment, operation, and execution of heterogeneous applications reflecting diverse circumstances over heterogeneous, software-defined, high-performance, cloud infrastructures, with a particular focus on **performance, quality, manageability, and reliability**.



CHALLENGE

SODALITE proposes to tackle the complexity of deploying and operating modern applications onto heterogeneous HPC and cloud-based software-defined infrastructures, under arbitrary operational conditions and requirements. We are tackling this challenge through:



Abstraction

abstraction of the application and software-defined infrastructures



Design

design and runtime analysis of software-defined infrastructures



Automation

automation of maintaining a dynamic balance between the application and the infrastructure

TANGIBLE RESULTS

- 1 **pattern-based abstraction library**, including application, infrastructure and an absolute novum, performance abstractions,
- 2 **design and programming** model for full-stack application and infrastructure descriptions, using abstraction library
- 3 **deployment framework**, enabling static optimisation of the so-abstracted applications onto specific infrastructures
- 4 **automated run-time optimisation and management** of so-deployed applications.

