



# Sodalite

**SOFTWARE DEFINED APPLICATION  
INFRASTRUCTURES MANAGEMENT  
AND ENGINEERING**



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

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 825480



# Problem Statement

**We are living in a software-defined world.**

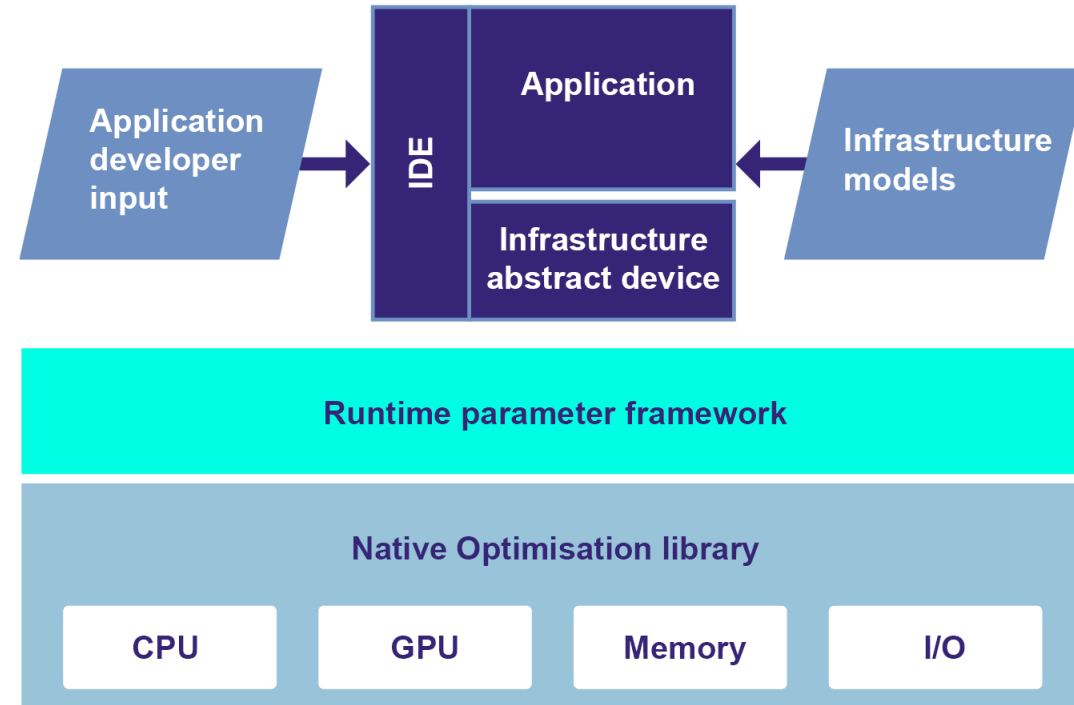
Cloud in the back-end of most daily routines, operations, assistants, IoT devices.

HPC in the back-end of industrial design, optimisations, weather predictions.

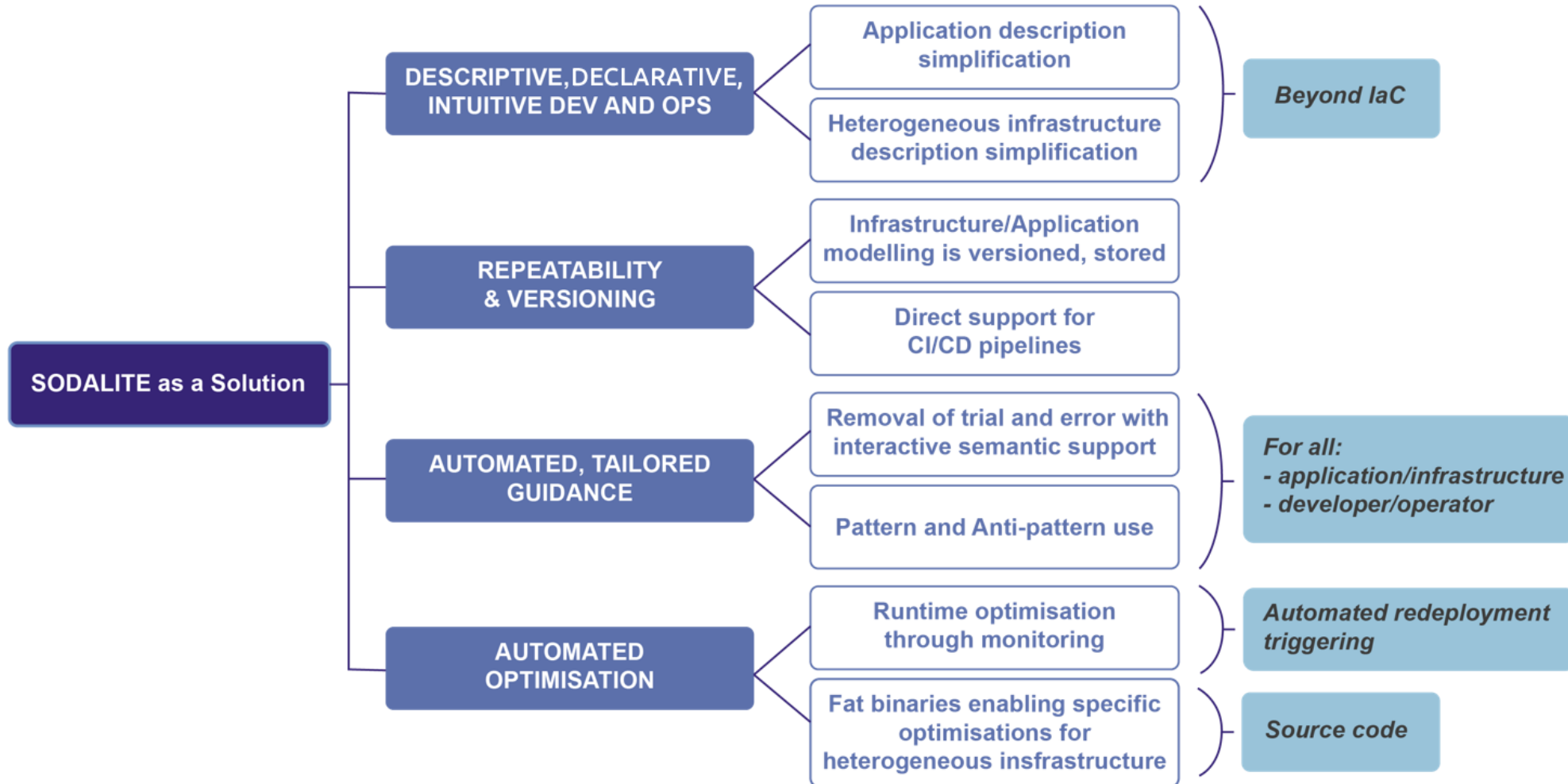


# Solution Outline

**SODALITE will provide tools to enable simpler and faster development, deployment, operation and execution of heterogeneous apps in HPC, Cloud & SW defined computing environments**



# How we do it



# What are the Benefits?

## Ease, flexibility, openness

- ✓ Easy to adopt simplified application lifecycle management
- ✓ Deployment flexibility and heterogeneity
- ✓ Robustness and reliability
- ✓ Reproducibility
- ✓ Based on robust methodology
- ✓ Versatile and scalable
- ✓ No vendor lock



## Performance

- Performance-centric application deployment management
- Deployment efficiency
- Focus on application performance

## Cost Reduction

- Cost and time reduction in infrastructure management
- Cost and time reduction in application deployment and management



# Use-Cases as Drivers for SODALITE Innovation

## SODALITE Innovation: toolset for simpler and faster development, deployment, operation and execution of heterogeneous apps



### Use case: GPU Snow Use Case

**Problem:** Need for a reconfigurable workflow (CPU/GPU/IO bound), to be deployed anywhere and optimised for that infrastructure.

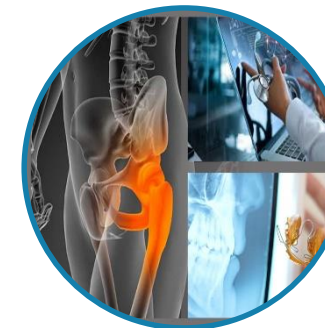
**Solution:** Optimisation and reconfiguration improve potential prediction accuracy due to improved throughput of data.



### Use case: Vehicle IoT

**Problem:** Changing compliance, privacy, and security needs in a dynamic environment, combined with limited computational capacity at the network Edge.

**Solution:** Adaptive Application and Deployment Reconfiguration, leveraging heterogeneous compute resources in a multi-cloud (Cloud-to-Edge) environment.



### Use case: In-silico Clinical Trials

**Problem:** Production-ready, complex workflow, needs to be capable to efficiently run anywhere.

**Solution:** Deployment optimisation, heterogeneity support and deployment reconfiguration - enabling to target any infrastructure.



*SODALITE has the potential to deliver solid innovations, validated in large pilots, towards the deployment and operation of the next generation of applications that will run on heterogeneous HPC and Cloud resources.*

*Nicolas Ferry*

UNIVERSITÄT  
DUISBURG  
ESSEN



*The SODALITE outcomes are an impressive next step to facilitate efficiently deploying and operating complex, adaptive software across the whole compute continuum.*

*Andreas Metzger*

# Who we are

## The Consortium







*Thank you for your attention!*

## TALK TO US

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