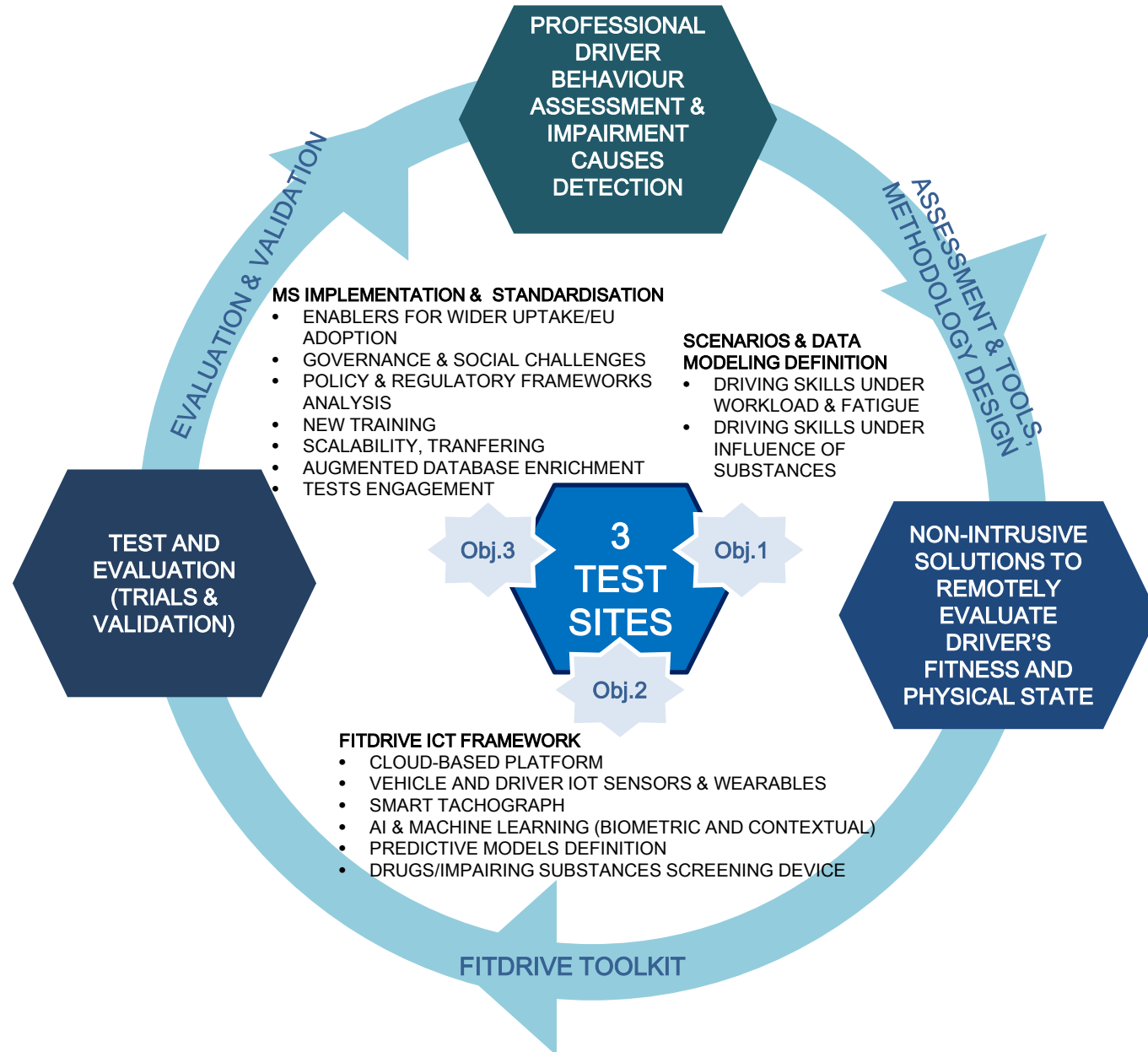FITDrive: Monitoring devices for overall FITness of DRIVErs

Topic MG-2-12-2020: Improving road safety by effectively monitoring working patterns and overall fitness of drivers
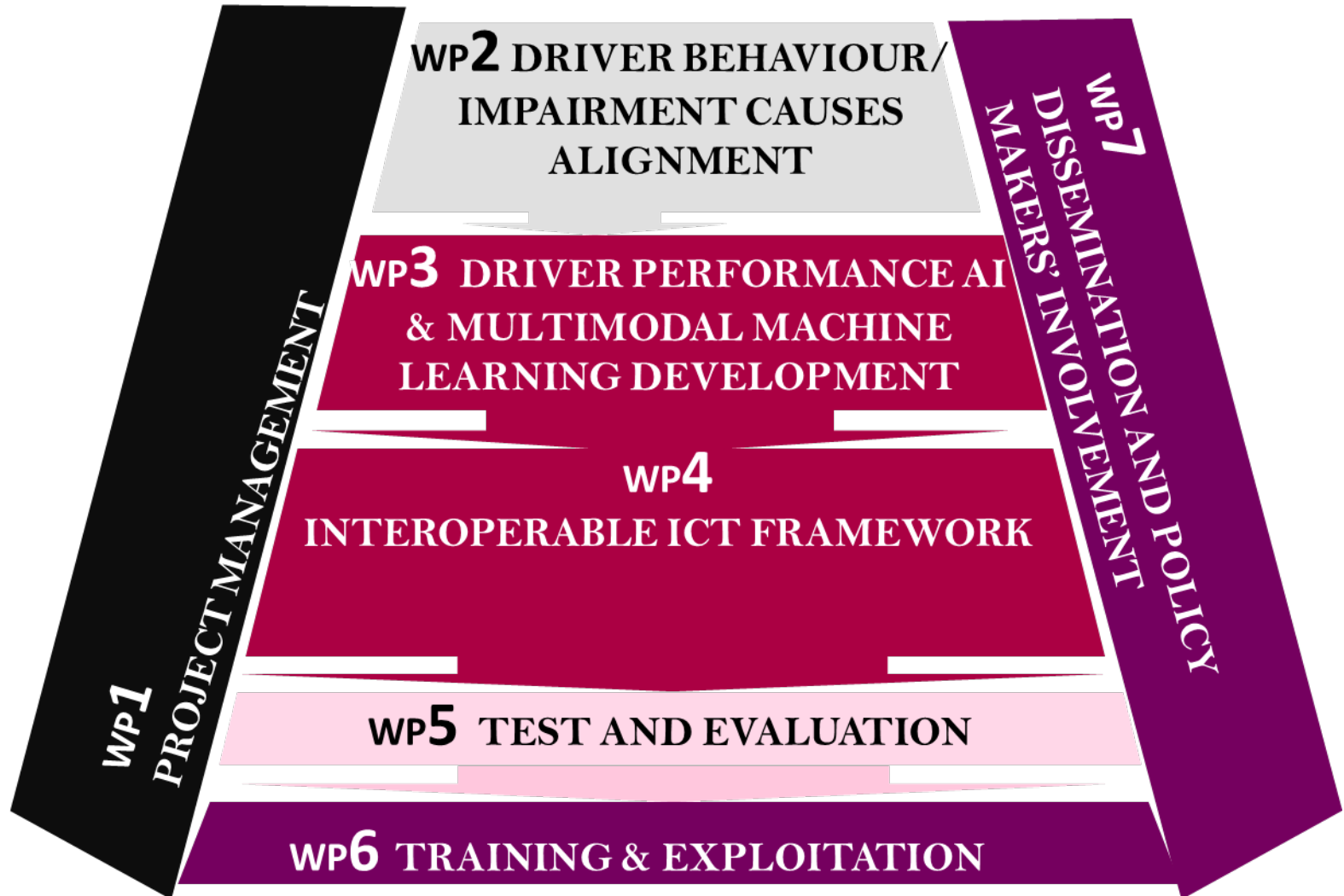
OBJECTIVES

- FITDrive (Monitoring devices for overall Fitness of Drivers) will design, implement and test new toolkits and methodologies, for monitoring and evaluating driving performance, cognitive load, physical or mental fatigue and reaction time, providing information to drivers, intelligent road systems, the enterprise and police roadside controls.
- FITDrive will also develop a new screening device to improve reliability and efficiency while considering cost effective aspects. The project will impact on i) Road safety preventing and thus reducing fatalities of drivers; ii); Professional drivers working conditions, focusing on their overall health and iii) roadside random controls increasing their effectiveness by screening only those drivers resulting with an anomalous behaviour and with the possibilities of the new screening device. Exploitation will focus on a consistent implementation across member states of standard interoperable products, new fitness to drive regulation, and driving training which will also contribute to EU road safety targets.

CONCEPT

PROFESSIONAL DRIVER BEHAVIOUR ASSESSMENT & IMPAIRMENT CAUSES DETECTION

EVALUATION & VALIDATION

ASSESSMENT & TOOLS, METHODOLOGY DESIGN

MS IMPLEMENTATION & STANDARDISATION
- ENABLERS FOR WIDER UPTAKE/EU ADOPTION
- GOVERNANCE & SOCIAL CHALLENGES
- POLICY & REGULATORY FRAMEWORKS ANALYSIS
- NEW TRAINING
- SCALABILITY, TRANFERING
- AUGMENTED DATABASE ENRICHMENT
- TESTS ENGAGEMENT

SCENARIOS & DATA MODELING DEFINITION
- DRIVING SKILLS UNDER WORKLOAD & FATIGUE
- DRIVING SKILLS UNDER INFLUENCE OF SUBSTANCES

TEST AND EVALUATION (TRIALS & VALIDATION)

Obj.3

3 TEST SITES

Obj.1

Obj.2

NON-INTRUSIVE SOLUTIONS TO REMOTELY EVALUATE DRIVER'S FITNESS AND PHYSICAL STATE

FITDRIVE ICT FRAMEWORK
- CLOUD-BASED PLATFORM
- VEHICLE AND DRIVER IOT SENSORS & WEARABLES
- SMART TACHOGRAPH
- AI & MACHINE LEARNING (BIOMETRIC AND CONTEXTUAL)
- PREDICTIVE MODELS DEFINITION
- DRUGS/IMPAIRING SUBSTANCES SCREENING DEVICE

FITDRIVE TOOLKIT

WORKPLAN

CONSORTIUM