KYKLOS 4.0 Pilots

KYKLOS 4.0 demonstrates the transformative effects that Circular Production System (CPS), Product Life Management (PLM), Life Cycle Analysis (LCA), Augmented Reality (AR) and Artificial Intelligence (AI) technologies and methodologies will have to the Circular Manufacturing framework.

KYKLOS 4.0 Smart and Circular Manufacturing Pilots

01 Medical Pilot **PRO MEDICARE** facilities– Italy	**05** Electronic Equipment Pilot **CONTINENTAL** facilities – Romania
02 Aerospace Pilot **KANFIT3D** facilities – Israel	**06** Shipyard Pilot **ASTANDER** facilities – Spain
03 Aerospace Pilot **GRC** facilities – Israel	**07** Food Industry Pilot **PINDOS Cooperative** facilities – Greece
04 Electronic Devices/Equipment Pilot **VESTEL** facilities – Turkey	**08** Automotive Pilot **DIGRO** facilities – Italy

KYKLOS 4.0 Open Calls

KYKLOS 4.0 will organize two Open Calls to engage European SMEs in the design and implementation of highly innovative experiments/prototypes. Several events across Europe are expected to be implemented within the framework of the two Open Calls.

The KYKLOS 4.0 – Open Call #1 was published and launched on 1 April 2021 and closed on 30 June 2021. In total, 47 proposals involving 117 entities were submitted to the open call. The first round of experiments funded under the KYKLOS 4.0 project will run for six months until 30 April 2022. The KYKLOS 4.0 – Open Call #2 is expected to be published on June/July 2022.

Who we are

The KYKLOS 4.0 consortium is a well-balanced group of European organizations including research institutes, universities, SMEs, and large enterprises, with complementary expertise. The partners bring together a unique combination of technical-business skills and expertise necessary to form an effective and compact consortium.

End Users
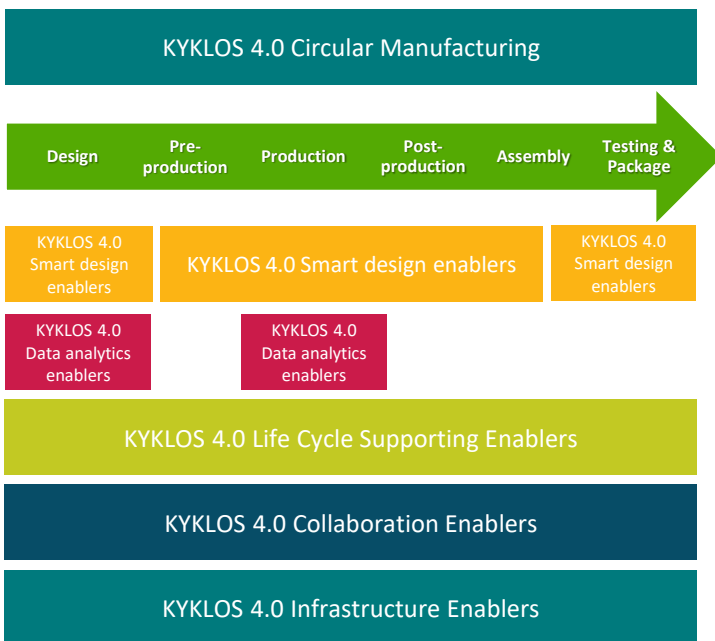

KYKLOS 4.0

www.kyklos40project.eu

KYKLOS 4.0

An Advanced Circular and Agile Manufacturing Ecosystem based on Rapid Reconfigurable Manufacturing Process and Individualized Consumer Preferences

KYKLOS 4.0 Briefly

KYKLOS 4.0 aims at providing a Technology Ecosystem which creates and supports the configurations, methodologies, production techniques, decisions and actions at all different levels and stages of the manufacturing value chain to achieve:

- Increased energy efficiency
- Decreased use of raw materials (second use of parts or materials)
- Customer-centricity
- On-demand manufacture

KYKLOS 4.0 Circular Manufacturing

Design	Pre-production	Production	Post-production	Assembly	Testing & Package

KYKLOS 4.0 Smart design enablers
KYKLOS 4.0 Smart design enablers
KYKLOS 4.0 Smart design enablers

KYKLOS 4.0 Data analytics enablers
KYKLOS 4.0 Data analytics enablers

KYKLOS 4.0 Life Cycle Supporting Enablers

KYKLOS 4.0 Collaboration Enablers

KYKLOS 4.0 Infrastructure Enablers

KYKLOS 4.0 Circular Manufacturing Framework

KYKLOS 4.0 will deliver an advanced configuration variants' framework and state-of-the-art production paradigm, embedding key technologies into a unified platform Ecosystem to manage live product innovation.

KYKLOS 4.0 Objectives

The following set of objectives are set, covering the project's scientific and technological aspects throughout its duration as well as the exploitation of the project's results after its end:

01	Decentralized Interoperable Agent-Based B2B Marketplace Platform
02	Virtual Production Line Orchestration Module & Interoperative Fog Architecture Framework
03	Continuous Deep Learning Toolkit for Operational Metrics
04	Tailored Circular Manufacturing and Mass Customization Services
05	Big Data Aggregation and Integrated DSS for Optimizing Production Capacity
06	KYKLOS 4.0 Auditing Mechanisms
07	Product Data Management
08	Product Life Cycle Monitoring / Customer Feedback
09	KYKLOS 4.0 Production Line "Smartification" System
10	Additive Manufacturing Simulation Modules
11	KYKLOS 4.0 Automated Refurbishment Certification

Meeting Industry 4.0 objectives:
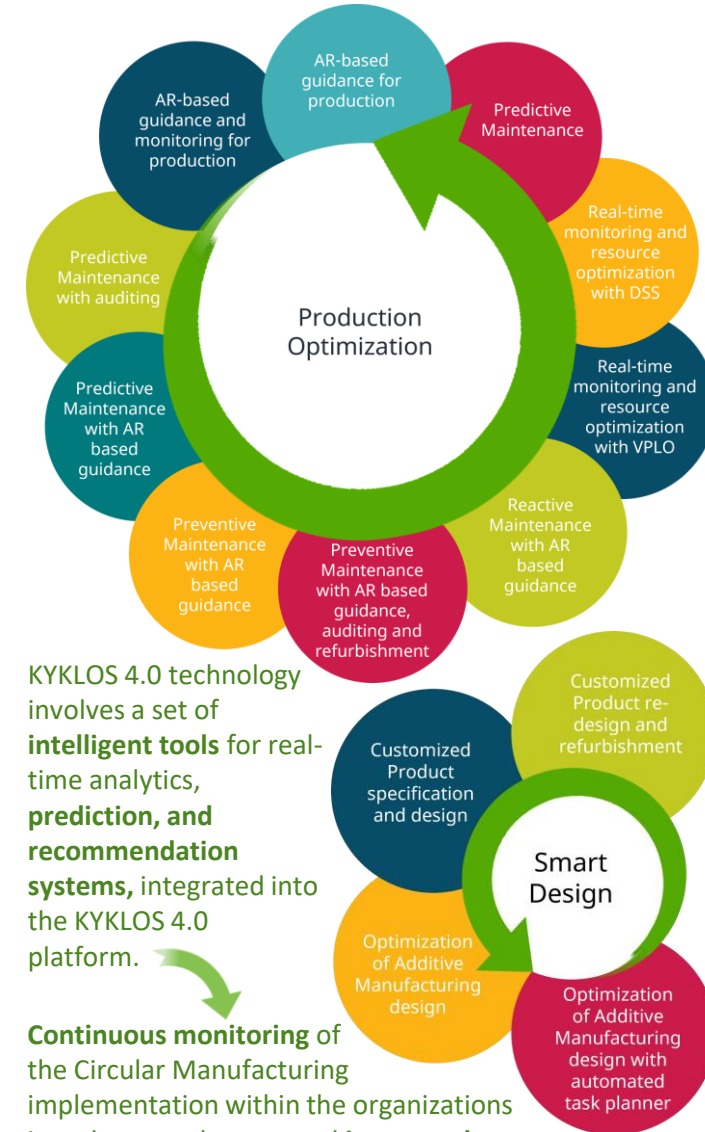
Operational excellence

Mass customization and personalization

Increasing efficiency

Reducing waste

Boosting competitiveness

KYKLOS 4.0 Technology & Solutions

KYKLOS 4.0 technology involves a set of **intelligent tools** for real-time analytics, **prediction, and recommendation systems,** integrated into the KYKLOS 4.0 platform.

Continuous monitoring of the Circular Manufacturing implementation within the organizations in order to early react and **improve the Circular Economy related metrics**.

Rapid Reconfigurable Manufacturing Processes

Individualization of Consumer Preferences