White’R

is a self contained white room in a multi-robotic island that can easily be integrated in existing productions shop-floors. It empowers the handling, assembly and disassembly of high value added optoelectronic products. The island devices are conceived as ‘’Plug&Produce’’ reusable modules properly configured coherently with the productions requirements.

The white’R island would represent the first fully automated white room island for the realization of very complex (dis)assembly tasks.

The utilization of automated industrial equipment, whose flexibility would be capable of matching the various production requirements across their lifecycles, would globally impact on the reduction of cost for the products and the production while ensuring an increased agility towards the introduction of new product versions.

workplan

In order to achieve white’R objectives a coherent work plan organized in 11 work packages lasting over 3 years has been developed .
White’R implementation started in September 2013 and will end in August 2016

results

white’R final result consists of two physical demonstrators of a production island realizing (dis)assembly of optoelectronic components for renewable energy systems and material processing laser systems, two of the most important sectors in the European photonic value chain in terms of growth rate and related economic benefits.
white’R software infrastructure consists of 5 software applications integrated in a unique platform.
Mechatronic Lifecycle Configurator is equipped with the P&P modules’ libraries and embeds a mathematical model and a simulation environment to assess reconfigurations for optimal reuse of the various modules.
Automation Lifecycle Configurator oriented to the design, implementation and validation of the control architecture
Evolving Process Planner supporting the process efficiency and LCA
Shop-Floor Dynamic Production Planner dealing with the shop-floor production management
Lifecycle Optimizer is double level software for closed loop adaptive optimization of control set-points and process parameters and for production optimization and the efficient sinchronization/coordination of the island with the other resources of the shop-floor.

links

info@whiterproject.eu

WEBSITE http://whiterproject.eu/

DOWNLOAD additional info

FUNDING PROGRAMME

7th Framework Programme (FP7). FoF.NMP.2013-2: Innovative Re-Use of Modular Equipment Based on Integrated Factory Design.

SEVENTH FRAMEWORK PROGRAMME

consortium

Excellence in their respective fields of expertise has been the guiding principle in assembling the white'R team. We have strived to achieve balance among academic and research institutions, system development companies, and industrial end users to form a "Lean and Efficient Organization"

Prima Electro

Prima Power

SUPSI

POLITECNICO MILANO

IRIDA LABS

Synesis

Solar Capture Technologies

Globotics Industries

FRAMOS

OPI Photonics

IRIS

AntOptima

white'R

white room

based on **R**econfigurable

robotic island for OptoElectronics