Press release

The A4BLUE project (Adaptive Automation in Assembly For BLUE collar workers satisfaction in Evolvable context) has started and funding has been provided by the European Commission within the framework of the H2020 European Framework Programme on Research & Innovation.

The basque technology centre, IK4-TEKNIKER, is the leader of this project in which renowned universities such as RWTH Aachen (Germany) and Cranfield (United Knigdom) and companies such as AIRBUS Operation SAS (France), Engineering-Ingenieria Informática SPA (Italy), Illogic Societa'a Respponsabilita'Limitata (Italy), CIAOTECH Srl (Italy), CESA (Spain) e Ingeniería de Automatización y Robótica KOMAT SL (Spain) are the key players.

Sectors dealing with aeronautics, the automotive business, wind power or capital goods are characterised, on the one hand, by complex products and small-scale production runs that require a high degree of accuracy and, on the other, by mounting pressure in terms of achieving higher levels of productivity. Manufacturing systems, moreover, must grapple with a constantly changing environment because of short-term changes produced by variability related to production processes and workers' characteristics and to long-term changes arising from market demands, company strategies, technological breakthroughs and demographic trends. In this context, worker interaction is a necessity and assembly systems must bring human beings and automation devices together in order to profit from their respective strengths.

The main goal of this 36-month project is to develop and evaluate a new working environment that is both sustainable and capable of adapting to constant requirement changes in manufacturing processes and to the different skills of workers. To this end, A4BLUE will introduce adaptable automation mechanisms to run tasks in an efficient and flexible manner and thus provide a constant and safe man-machine interaction as well as advanced and customised operator support systems, including virtual and augmented reality and information management systems to offer support in activities related to assembly and training. A4BLUE will also provide the methods and tools required to determine the optimum degree of automation for new assembly processes by combining and balancing social and economic criteria with a view to maximising workers' long-term satisfaction and production process performance levels.

The A4BLUE solution will be commissioned and validated in two real-life industrial scenarios (AIRBUS and CESA) and in two laboratory scenarios (IK4-TEKNIKER and RWTH Aachen).

In addition to leading the project, IK4-TEKNIKER will also conceptualise and design the architecture of the enabling infrastructure and develop its adaptation framework. Work will also focus on assessing any risks connected to automation and multimodal interactions between persons and equipment. IK4-TEKNIKER will also apply the concepts developed in the project by means of a case of use in which workers will cooperate with a bi-manipulative robot in a collaborative environment.

Participants:

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