

SOME ASPECTS ABOUT THE KNOWLEDGE OF MECHATRONICS EQUIPMENTS RELIABILITY AND ITS TRANSFER TO INDUSTRIAL ORGANIZATIONS

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Abstracts: The purpose of this paper is the presentation of the results of project named „Complex laboratory for the diagnosis, reliability analysis and predictions of mechatronics equipments integrated in the flexible manufacturing cells”, financial supported in the framework of The National Plan for Research, Development and Innovation PN II. The necessity of technical knowledge transfer between engineering education institutions and industrial organizations is emphasized.

The structural complexity of mechatronics equipments integrated in the flexible manufacturing cells (MEIFMC), as well as their specific characteristics, make from the diagnosis, reliability modeling and prediction of these systems researches of great importance at the international level and one of the first investigation in this field at the national level.

The main results of the Project no. 125/cp/I/ 2007 are:

- a) Modern laboratory, by purchasing and integration of equipments in a state of the art MEIFMC system;
- b) Mobile system for MEIFMC diagnosis using vibration analysis;
- c) Software module for the identification of function states of MEIFMC using fuzzy techniques;
- d) Software module for the reliability analysis and prediction of MEIFMC;
- e) Software module for the inspection planning design of the MEIFMC;
- f) Software module for the renewal policies design of the MEIFMC;
- g) Software module for reliability simulation of MEIFMC.

The project is correlated to the thematic area and domains of European Research Area, and sustains the participation and integration of Romanian research in the common researches with similar organizations at the European and international level. In this way, the project has a important contribution in the development of future engineers and researchers, by involvement in the research activities of the students at doctoral/master/undergraduate level. Courses and training regarding the diagnosis and reliability assurance of modern equipments will be offered for the engineers and other people interested in the field.

The development of the project contribute at the increasing or Romania capacities to participate in the scientific and technological programs and develop collaboration with industrial organizations. Different possibilities of the knowledge transfer between engineering education institutions and industrial organizations is studying in the PN II Program “Parteneriate in Domenii Prioritate” Contract number 92074/1.10.2008.

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