I. ABSTRACT

The habilitation thesis **Optimizing the projects and processes management in the field of industrial engineering. Using artificial intelligence methods** reflects the activity of the author, performed after graduated the both PhD and 2014. It is based on original contributions performed during research activities at "Politehnica" University of Timisoara, West University of Timisoara, "Ioan Slavici" University of Timisoara, and also in other universities (inside the partnership and stages in Szeged, Novi-Sad and Nyregyhaza).

The thesis combines the two fields of expertise (engineering and inside computers aplied in industrial engineering and economic and inside management and finance), mainly concerned by graduating from more specializations and Bologna cycle stages:

1. Industrial engineering (machine buiding technology) license –Politehnica Timisoara University 1983

2. Automatics and computer license –Politehnica Timisoara University1994

3. Finances license – West University Timisoara -2000

4. Management license – West University Timisoara 2001

5 Industrial engineering doctorate – Politehnica Timisoara University –"Contribution to computer aided design of machine-tools with numerical control in order to manufacturing complex geometrical entities" PhD Thesis 1994

6. Finance doctorate – West University Timisoara – „Financial management optimization using artificial intelligence methods", PhD Thesis, Timisoara, 2006.

These are part of the fundamental basic training, continuously improved through complementary trainings and educational programs.

It is hard to be framed within scientific, professional or academic achievements, although bellow I try to split them:

A. Scientific achievements

A1. usage of artificial neural network in forecasting bankruptcy

A2 Scientific research planning using specific statistical methods. Aplyig ANNs to estimate best results

A3. applications of the artificial intelligence in the sustainable agribusiness – case study regarding energetic plants

A4. Contributions to the manufacturing and measuring control using numerical techniques

A5. Contributions to the optimization of the manufacturing processes through electrical erosion

A6. Industrial Parks and Technological and Scientific parks projects. Start up and spin off projects

A7. optimization of artificial neural network architecture

A8. projects and grants access and implementation

B. Professional achievements

B1. Professional prestige

B2. Completion of Professional training by graduating from more specializations and Bologna cycle stage

B3. Permanent publishing activity

B4. Participation in national and international conferences events

B5. Accessing and implementing projects/ grants, focused on professional component

B6. Forming new entities from professional component point of view:

B6.1. The constitution of modern scientific and professional entities:

- technological and scientific park - TSP Tim Science Park Timisoara

- the spin off and start-up company constituted – SC Slavici Spin-off SRL, responsible for research commercial capitalization;

- Cenei Industrial Park – on-going implementation.

B6.2. The constitution of Ioan Slavici Foundation for Education and Culture in Timisoara, within which the University was formed.

B6.3. Creating new laboratory at the level of Politehnica University from Timişoara (manufacturing and measurements numerically assisted) and at the level of Ioan Slavici University Timisoara (integrated engineering, companies' simulator).

C. Academic achievements

C1. Step by step and on the basis of legal contest evolution within academic functions hierarchy

C2. Academic achievements by completion of more specializations and Bologna cycle stages:

C3. Permanent publications activity

C4. Participation in national and international conferences events

C5. Teaching in foreign universities

C6. Involvement in student practice activities

C7. Founding new entities in the academic sector:

- The founding of Ioan Slavici Foundation for Education and Culture in Timisoara, within which the University was formed.

- The founding of 5 university specialization fields (Accounting and Information Management, Finance, Business Administration, Computers, Information Technology), for which I personally have formulated and organized the ARACIS authorization documentation.

- Creation of new labs at the level of Politehnica University from Timisoara (manufacturing and measurements numerically assisted) and at the level of Ioan Slavici University Timisoara (integrated engineering, companies' simulation).

The plan for advancement and career development is based on the proven skills to conduct and coordinate high-level research and teaching activities at academic level and to initiate successful international collaborations in the field of using computers tools in economic.

A complex educational and research system, developed based on national and international research grants will provide an ideal platform to train and educate graduate as well as undergraduate students in an almost unique multidisciplinary exploration topic, involving computer science and also economic field, creation of sustainable collaborative mechanisms with national and international partners in the field of decision is a priority of the research group. The results are planned to be valorized in the scientific community, but also to be oriented towards the public interested in the subjects of the research activity.

In summary, based on the activity developed so far, an extended set of activities at local, national and international level are foreseen; the results could be significantly enhanced if the research team will be enlarged with doctoral students, coordinated as a result of the habilitation thesis.