The University-industry collaboration as a strategy for Engineering Education

Luiz A. Gargione, Universidade do Vale do Paraiba, Sao Jose dos Campos, Sao Paulo, Brazil, gargione@univap.br
Carlos A. Moura, Universidade do Vale do Paraiba, Sao Jose dos Campos, Sao Paulo, Brazil, cmoura@univap.br
Jose Alfredo C. L. Costa, Compsis, Sao Jose dos Campos, Sao Paulo, Brazil, alfredo.costa@compsisnet.com.br
Leopoldo R. Yoshioka, Compsis, Sao Jose dos Campos, Sao Paulo, Brazil, leopoldo.yoshioka@compsisnet.com.br

Abstract — *Engineering and Technology are critica l inputs for economic development and competitiveness. The Engineer of the Americas is a well educated professional prepared to move seamlessly throughout the Continent of the Americas, that can be achieved through a carefully designed, and appropriately i mplemented university -industry collaboration . The partnership between universities and businesses is a key issue for the Engineer of the Americas proposal. University -industry collaboration can establish the models, strategies and processes for understandi ng and anticipating the development of new technologies and improvements in engineering education. This paper presents the experiences and the first results from an engineering and technology collaboration program called UNIVAP -COMPSIS Collaboration Progra m, where the University of Vale do Paraiba in the State of Sao Paulo, Brazil, and Compsis Computers and Systems Ltda., a Brazilian technology - based company, are working together in a project called Public Transportation Magnetic Guidance System. The projec t is a multi-technology and engineering based program that involves Public Transportation policies, Magnetic Sensor Systems, GPS Positioning Systems, Onboard Computing, Digital Signal Processing, Electrical -mechanical Engineering and Engineering Management knowledge. The project started in the middle of the year 2003. More than 60 people are working in the project now. Fourteen people are faculty members. Twelve are students, including in this case graduates and undergraduates. The project team is installed in a 3,200 square feet office and laboratory space in the university building, Urbanova Campus of the University of Vale do Paraiba. The laboratories involved in project are: Laboratory for Integration and Tests, Laboratory of Electronics and the Laborato ry for Computer Systems Integration. The project is being financially supported by a Government Transportation Agency. The activities planned for the project are: develop and integrate the electrical -mechanical engineering technology for a new bus for publ ic transportation; develop and integrate technology for a magnetic guidance system; develop and integrate technology for a GPS positioning system for the bus and develop and integrate technology for an onboard computer system for the bus in order to contro l speed and stops for the bus in the stations.*