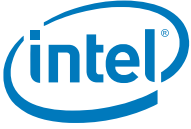


Press Releases: INTEL



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Substantial Academic Research Investment by Intel

Global technology giant Intel gives extensive support to academic research by means of investing in a total of three different projects in the Middle East Technical University (METU) and Bilkent University. Having donated equipment worth USD 2.5 million for the METU MEMS Research and Application Center, Intel also boosts collaboration with universities through two different scientific research projects that it will offer support.

Intel has announced new cooperation projects in the field of academic research during the press conference held with the participation of Alpaslan Korkmaz, **President of the Investment Support and Promotion Agency of Turkey (ISPAT)**, Prof. Dr. Ahmet Acar, President of Middle East Technical University, and Prof. Dr. Abdullah Atalar, **President of Bilkent University**.

- Intel makes an equipment investment of **USD 2.5 million** in the Middle East Technical University's "MicroElectroMechanical Systems (MEMS) Research and Application Center", which has developed micro-detectors for smart systems to be used in a number of different implementations, from defense industry to the biomedical sector.

The company will also provide support for putting two significant research projects into effect in cooperation with METU and Bilkent University.

- The first of these two projects is the "**Energy Efficiency Project**" carried out for the purpose of **converting heat and vibrational energy into electric energy, thus using new environmental energy sources in computers and extending battery life**. The Energy Efficiency Project aims to increase the energy efficiency of electronic devices such as computers, and extend battery life without the need to use any kind of electric welding.
- The second project to be supported by Intel is the "**Polar Codes Project**" which aims to **research practical applications of polar codes that may be employed in next generation telecommunication systems** in line with the Information Theory in Bilkent University. With this project, Bilkent University is aiming to discover usage areas of polar codes, with high performance and low-complexity, in next generation wireless telecommunication systems, to reach maximum speed in wireless telecommunication networks, and to obtain patent in this field.

Intel's support is of great importance since these two projects, which are deemed highly significant for the academic and scientific world, will go beyond theoretical research and turn into practical studies in the sector. Intel's R&D investments in Turkey are the greatest investments ever made in the region consisting of Turkey, the Middle East and Africa. In addition, the investment in Turkey is a pioneer in this region with the number of its R&D employees.

During her speech at the press conference held to mark Intel's support in academic projects and the company's equipment donation for METU MEMS, **Cigdem Ertem, General Manager of Intel Turkey**, underlined the fact that Intel has made substantial investments in the scientific and technological advancements both in Turkey and the world. Ertem stated that they have always been in close relations and collaboration with universities for technological developments, and added that she believed these two projects in METU and Bilkent University will be a significant leap forward in science and technology, and that they will highlight Turkey's name in the science world. Ertem also noted that they have blazed a trail in Turkey with their investments in the METU MEMS Research Center.

Ferruh Gurtas, Intel's Corporate Affairs Director for the Middle East, Turkey and Africa, emphasized that Intel's R&D investments in Turkey constitute a significant part of their plans for the Turkey - Middle East - Africa region and that Turkey has a leading position in this region with an R&D personnel of approximately 70,000 people along with a GERD/GDP ratio of 0.73 percent. Gurtas also stated that these investments are the preliminary ones and that Intel will cooperate with the Turkish universities in the long-run on similar projects and investments.

Alpaslan Korkmaz, President of the Investment Support and Promotion Agency of Turkey (ISPAT), stated that ISPAT and Intel are in close cooperation in terms of long-term projects. Noting that academic research and R&D studies play a significant role in the advancement of science and technology in the world, Korkmaz stated: "Intel has accomplished an exemplary study for the collaboration between sectors and universities with these projects. Paving the way for strategic and high value-added R&D investments, as well as protecting intellectual property rights are amongst the priorities on ISPAT's agenda. We are carrying out important studies in order to provide advanced technological support services in Turkey and to increase exports of services."



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Prof. Dr. Ahmet Acar, President of the Middle East Technical University, extended thanks to Intel for the Energy Efficiency Project to be carried out in the Northern Cyprus Campus of METU and the equipment investment that they made in METU MEMS. Acar said he would like this project to constitute a new step forward for their collaboration with Intel and to allow for the initiation of different R&D projects in Turkey in the future.

During his speech, **Prof. Dr. Abdullah Atalar, President of Bilkent University**, stated that he is thankful for all the support offered for the Polar Coding Project, which led to many research projects around the globe today following its invention by Erdal Arikan - an academic member of Bilkent University. Atalar pointed out to the fact that the project is a high-risk fundamental research and that they intend to put proven theory into practice. He also added that they are aiming to obtain patent following this study.

Following the speeches, Cigdem Ertem, General Manager of Intel Turkey, Prof. Dr. Ahmet Acar, President of the Middle East Technical University, and Prof. Dr. Abdullah Atalar, President of Bilkent University, signed a cooperation agreement.

Smart Systems to be put into effect with Intel at the METU MEMS Research Center

The production capacity and the R&D abilities of METU MEMS are expected to soar with four different pieces of equipment worth a total of USD 2.5 million to be provided by Intel's four factories. The METU MEMS Research Center has so far utilized six-inch silicon discs for the prototype sensors to be used in smart systems that can be applied in various fields, such as defense, biomedical, telecommunication and white goods. However, thanks to the systems donated by Intel, the research center will from now on be able to produce eight-inch silicon discs. Prof. Dr. Tayfun Akin, President of the center, said the systems will be in Turkey in three months and that following their installation, they will be put into service by the end of 2010. These systems Intel donated will be used for the mass production of silicon discs to be used for sensors that will be produced for different sectors in the long-run.

METU Energy Efficiency Project:

Middle East Technical University Northern Cyprus Campus Energy Efficient Project:

Research studies are currently being carried out for converting thermal or solar energy into electrical energy by increasing vibration and frequency on microchips through the Energy Efficiency Research of the Middle East Technical University Northern Cyprus Campus. This research is expected to be used for advancing interface systems for the compatibility of electrical systems and supplying power for MEMS (MicroElectroMechanical) systems developed in MEMS laboratories of METU. Research studies conducted on micro systems up until today will now continue in different fields with Intel's support to the project such as the mobile systems. A team of eight people, including Asst. Prof. Dr. Haluk Kulah, Vice President of METU MEMS Center, along with his students; Dr. Ali Muhtaroglu, an academic member of the METU Northern Cyprus Campus, along with master students; and a researcher from Intel will take part in this three-year long project. The Scientific and Technological Research Council of Turkey (TUBITAK) will also offer financial support for developing interfaces in the project.

Bilkent University Polar Coding Project:

Since its publication in 2008, Polar Coding which was discovered and named following 25 years of hard work by Prof. Dr. Erdal Arikan, an academic member of Bilkent University, has become a research field leading to many scientific conventions and doctorates in many countries around the world such as Japan, Switzerland and the United States. The Polar Coding Project focuses on advancing the Information Theory, the initial steps of which were taken in 1948 by Claude E. Shannon, an American mathematician and engineer. The Information Theory is a statistical theory that focuses on measuring the amount of information that can be sent via a certain communication channel, but it does not give information as how to reach such a capacity in practice despite providing the channel capacity. A series of specific codes with low-complexity that could mathematically prove the capacity reached has been generated for the very first time by using the Polar Coding Project. Through the project, which will be conducted at Bilkent University by Prof. Dr. Erdal Arikan along with two PhD students, the usage areas for polar codes with low-complexity and high performance along with practical applications in the communication systems of the next generation will be researched.

