Renewable energy and energy efficiency technologies are the key for creating a clean energy future for not only the nation, but the world. World Energy Consumption relies heavily on coal, oil, and natural gas. Fossil fuels are non-renewable, that is, they rely on finite resources that will eventually dwindle, becoming too expensive or too environmentally damaging to retrieve. In contrast, renewable energy resources, such as wind and solar energy, are constantly replenished and will never run out.

Due to the rising need for professionals and academics with a background and understanding in the Renewable Energy field, Holon Institute of Technology ("HIT") developed a new program at the Faculty of Electrical Engineering. The Renewable Energy program gives the students technical and practical aspects of energy use (technology and methodology of the study) and energy efficiency. The program also deals with minimizing the environmental impacts of energy use, as well as with energy economy and environmental policy.

The Institute offers its students a well-equipped laboratory, containing state of the art equipment in various fields such as: photovoltaic energy systems, a smart grid telecommunications and information security platform, wind and water energy work stations, and power electronics equipment.

The Renewable Energy Laboratory is operating under a new experimental teaching method, and presents itself as the "next generation" lab.

The Renewable Energy Laboratory team's as contribution to the community together with elementary school students "Revivim" Holon were participated in the design and construction of the "Ecological Garden". The "Ecological Garden" represents alternative energy installations that demonstrate scientific principles of energy conversion. The purpose of the garden is exposing the school community of innovative methods of energy conversion.

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production. These methods environmentally friendly and thus contribute to the reduction of air pollution. Visit the
garden is part of the environmental education.

*Keywords:* Electrical Engineering, Renewable Energy, Computerized Lab, contribution to the community, Ecological Garden

1. HIT – Holon Institute of Technology

HIT – Holon Institute of Technology was established in 1969 and became an independent public academic
institution of higher education in 1999, certified by the Council of Higher Education of Israel. HIT focuses on the
teaching of sciences, engineering, computer science and technology, management of technology and design. It also
emphasizes multi-disciplinary theoretical and practical research of innovative technologies from a professional
scientific, economic and cultural perspective. HIT trains highly qualified students in the realms of science,
engineering, management and design, and plays an important role in their integration upon graduation into key
positions within the industry. HIT aspires to quality and excellence in teaching and innovative research, and strives
to introduce novel and unique cutting-edge teaching and research technologies. HIT also prides itself on its advanced
academic achievements, application of innovative techniques and interdisciplinary professionalism that lead to
creative teaching and new technologies. HIT aims to utilize the intellectual and professional potential of each and
every student, so that they can fully integrate into the fast-paced technological world of today. Providing superior
technological and scientific education enables HIT graduates to enter key leadership positions in both the private and
public sectors.

1.1. Faculty of Engineering

The last decades have been dominated by the rapid changes introduced by the technology revolution, which has a
tremendous influence on our daily lives. Today we are facing a myriad of new challenges. Technology-based
industry has matured in many ways and the required skills for future engineers are much more complex in a world
where "machines/computers" execute many of the engineering tasks. Most of all, we are facing a new generation of
sophisticated students, who were born into the digitized/multimedia world. The mission of the study program is to
encourage and initiate academic development, through the development of new study programs and methods, while
being responsive to the rapidly changing trends in the field. The proper education of the undergraduate students
must also be a function of market needs and predictions of how technology will develop in the foreseeable future. In
order to ensure that our graduates are well qualified to meet the future needs of the market, meticulous attention
must be paid to maintain a high standard in the fundamental courses and impart practical tools and skills. It is also
important to introduce a wide variety of new subjects. The aims and goals of the Engineering faculty are to provide
the students with a rich and comprehensive study program, and keep the study program updated to meet the ever-
changing requirements for engineers of the future, enrich the student’s theoretical knowledge as well as teach
practical and design skills and knowledge; adapt its teaching methodologies and techniques, focusing on
understanding as a goal; enable students to achieve skills such as self-learning and to acquire expertise via practice
by understanding constantly update the teaching methods and the study program maintain relationships with the
various relevant industry sectors introduce the students to state-of-the-art equipment and facilities, for conducting
experiments that reinforce their understanding of the theoretical and practical issues studied in the courses promote
research in the various fields; and explore cooperation with other institutes in Israel and abroad.

2. Renewable Energy and Smart Grid Excellence Center

The Energy field is thriving, due to several factors: the world energy crisis, political trends that create a rise in oil
prices and other environmental topics. All of these have brought upon us the emergence of new and fascinating
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