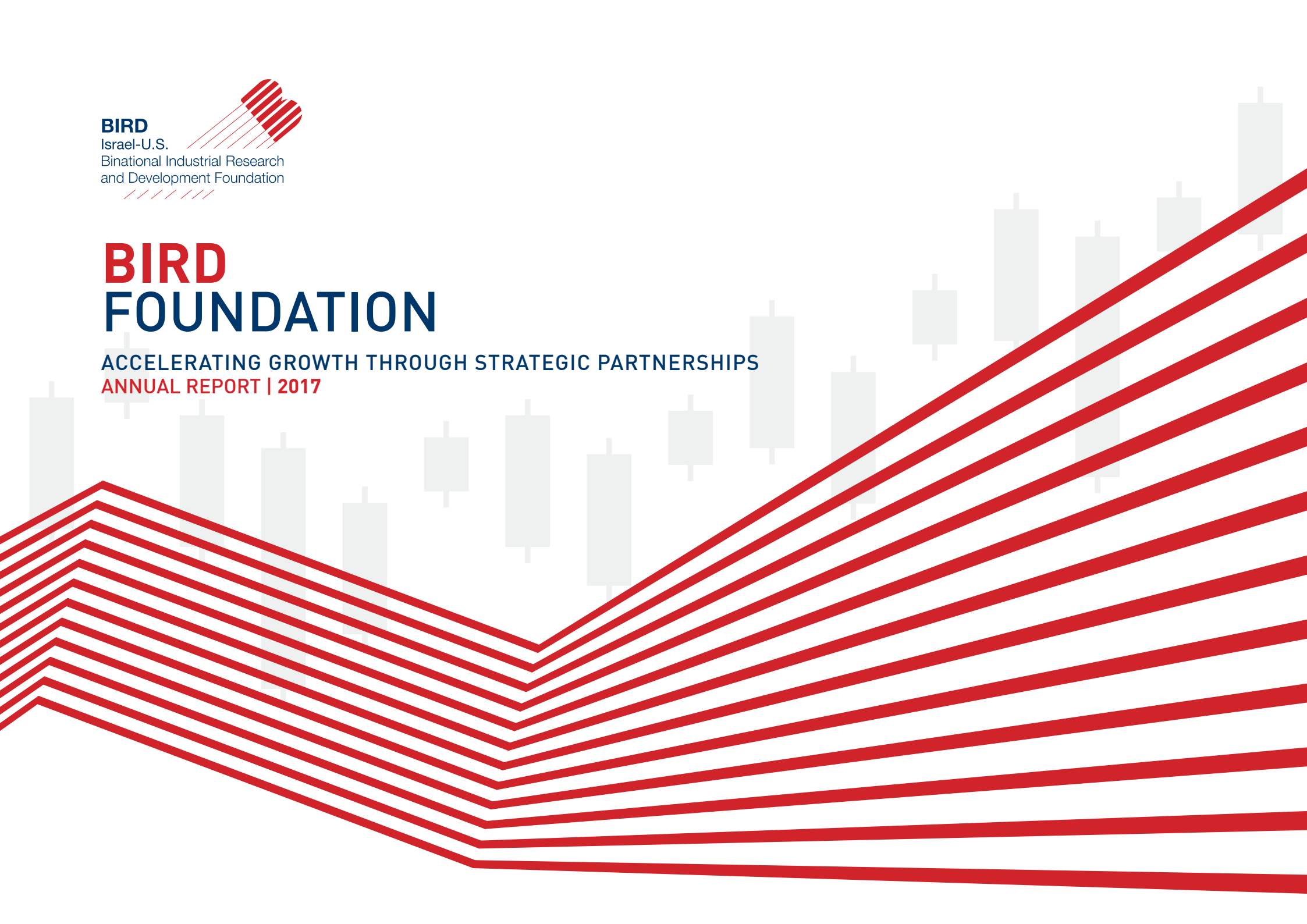


BIRD
Israel-U.S.
Binational Industrial Research
and Development Foundation



BIRD **FOUNDATION**

ACCELERATING GROWTH THROUGH STRATEGIC PARTNERSHIPS
ANNUAL REPORT | 2017



BIRD'S MISSION STATEMENT



To stimulate
promote and
support industrial
R&D of mutual
benefit to Israel
and the U.S.

A FUTURE OF INNOVATION AND COLLABORATION



“The BIRD Foundation is perhaps the best example of how we [Israel and the U.S.] come together in innovation, in development and in cooperation,” stated the President of Israel, Reuven Rivlin, in a message recorded for a video produced in honor of BIRD’s 40th Anniversary.

Four decades of promoting and supporting U.S.-Israel R&D collaboration is a good reason to celebrate more than once and in both countries. The first of two anniversary celebrations was held on June 14, 2017. Our search for an appropriate venue in Washington, D.C. led us to the Smithsonian National Museum of American History. The event took place in the museum’s Innovation Wing, where we featured several of BIRD’s successful projects surrounded by exhibits reminding us that innovation and the advancement of technology are deeply embedded in U.S. history.

The second event was held on December 12, 2017, in Israel, at the U.S. Ambassador’s residence, following the second semi-annual BIRD Board of Governors’ meeting. Over 300 guests celebrated the 40th anniversary of the BIRD Foundation in both countries.

The year 2017 was a very busy one for the BIRD team. In addition to the 40th anniversary celebrations, we organized other events and matchmaking activities along with partners in both countries. We have increased BIRD’s outreach and exposure through social networks, as well as launching a new website and a public interactive database where users can search all BIRD funded projects by year, U.S. state and industry sector.

We are constantly on the move, visiting and meeting with U.S. and Israeli companies to discuss projects, make introductions to potential partners and seek out new opportunities for collaborations. In the U.S., it has been our goal to encourage cooperation in geographical areas outside of the traditional hi-tech hubs like Boston

and the Silicon Valley. We have been welcomed by these communities with great enthusiasm and are encouraged by the potential and interest they have shown in learning about and collaborating with Israeli companies.

In October 2017, BIRD Energy held its ninth Executive Committee meeting to approve projects relating to renewable energy and energy efficiency. According to U.S. Secretary of Energy, Rick Perry, in a video message recorded to bring exposure to the BIRD Energy program, “This kind of collaboration will be mutually beneficial and allow both countries to achieve their economic and security energy goals.”

And finally, we were pleased to hold our second yearly funding cycle for BIRD’s newest program, NextGen First Responder Technologies, sponsored by the U.S. Department of Homeland Security and the Israel Ministry of Public Security. This program aims to develop advanced technologies to keep our First Responders “Protected, Connected and Fully Aware.” The program demonstrates BIRD’s commitment to supporting emerging technology sectors with potential for significant global economic and social impact.

We look forward to yet another year of innovation and collaboration. In a race towards technological progress and global connectivity, companies face tough competition from new regions of the world. BIRD is committed to supporting U.S. and Israeli companies through their collaborations as they face these challenges, contributing to economic growth and technological advances worldwide.

BOARD OF GOVERNORS



Dr. Phillip Singerman | co-Chair

Associate Director for Innovation
and Industry Services
National Institute of Standards and Technology
Department of Commerce



Dr. Amiram Appelbaum | co-Chair

Chief Scientist, Ministry of Economy
and Industry
Chairman, Israel Innovation Authority

co-Chairmen's Message

In 2017, the BIRD Foundation celebrated 40 years since its inception. As expressed many times by leaders of both countries, the Foundation is a pillar for U.S.-Israel collaboration in innovation and a model for other binational collaborations, both in the U.S. and in Israel. This report summarizes another year of extensive activities, including two relatively new programs, focused on Energy and First Responders, respectively.

The digital age affects the global economy and creates a technology inflection point, impacting all areas of our lives. This is also reflected in the sectors of the projects approved during 2017, such as agrotechnology, autonomous vehicles, digital health, homeland security and others. Several of the projects are related to the handling and processing of large amounts of data.

In such a rapidly changing and competitive environment, companies need to be creative and collaborate in order to address the challenges. The BIRD Foundation is a proven vehicle for enabling both U.S. and Israeli companies to work together and leverage their respective strengths in innovation in order to stay ahead of these changes.

Looking towards the future, the BIRD Foundation's Board of Governors will continue working closely with the BIRD team to ensure that the Foundation is attentive to the evolving technology and innovation scene, while fulfilling the Foundation's mission of economic and social impact, for the mutual benefit of both the U.S. and Israel.



BOARD OF GOVERNORS

The Board of Governors meets semi-annually – every June in the U.S. and every December in Israel. Each government has three representatives on the Board. In addition, there are two advisors to the Board.

U.S. Governors

Dr. Phillip Singerman | co-Chair

Associate Director for Innovation and Industry Services
National Institute of Standards and Technology
Department of Commerce

Dr. Jonathan Margolis

Deputy Assistant Secretary
Bureau of Oceans, International Environmental
and Science Affairs
Department of State

Mr. Anthony Marcus

Director, Middle East and North Africa
International Affairs
Department of the Treasury

Israeli Governors

Dr. Amiram Appelbaum | co-Chair

Chief Scientist, Ministry of Economy and Industry
Chairman, Israel Innovation Authority

Mr. Shai Babad

Director General
Ministry of Finance

Mr. Shai Rinski

Director General
Ministry of Economy and Industry

Advisors to the Board

Dr. Dean Baker
Dr. Harry Hertz

Others who have acted on behalf of the Board during 2017

Mr. Aharon Aharon | Israel Innovation Authority

Mr. Chuck Ashley | U.S. Embassy, Tel Aviv

Mr. Jared Banks | U.S. Department of State

Dr. Katya Delak | U.S. Department of Commerce

Mr. Gil Erez | Israel Ministry of Economy and Industry

Ms. Michal Gelbart | Israel Ministry of Finance

Ms. Shira Greenberg | Israel Ministry of Finance

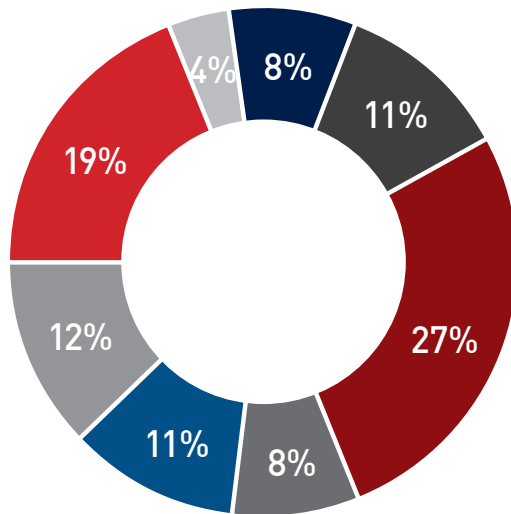
Dr. Deborah Howell | U.S. Embassy, Tel Aviv

Mr. Amad Judeh | U.S. Department of the Treasury

Mr. Israel Shamay | Israel Innovation Authority

ACTIVITY SUMMARY

Statistics - 2017



Approved Projects

Sector	Total
Agrotechnology	2
Life Sciences	3
Energy, Water, Environment*	7
Communications	2
Electronics/Software	3
Healthcare IT	3
Homeland Security**	5
Other	1
Total	26

* includes 5 BIRD Energy projects

** includes 3 BIRD HLS/First Responders projects

Financial Summary - 2017

	Income				Grant Payments	
	Endowment		Repayments		Grant Payments	
	Year (\$M)	Cum. (\$M)	Year (\$M)	Cum. (\$M)	Year (\$M)	Cum. (\$M)
2011	8	236	3	93	5	295
2012	7	243	3	96	6	301
2013	8	251	3	99	8	309
2014	8	259	3	102	10	319
2015	7	266	2	104	10	329
2016	7	273	1.5	105	10	339
2017	8	281	0.9	106	7.4	346

Income

BIRD's annual income is comprised of interest on the Endowment Fund and Repayments from companies who have participated in projects that were successful. This annual income is at a level that permits BIRD to meet all its financial obligations in a timely manner.

Since its inception BIRD has received interest of approximately \$281 million on the Endowment Fund and Repayments of approximately \$106 million from successful projects. Over this period Grant Payments to companies have reached approximately \$346 million.

Activity Summary - 2017

Direct Sales	Repayments	Grant Payments	Approved Projects		
2017 \$26 million	2017 \$0.9 million	2017 \$7.4 million	Full-scale projects (2017) 17 projects*	Mini projects (2017) 1 project	Total projects (2017) 18 projects
Cumulative \$5 billion	Cumulative (from 427 projects) \$106 million	Cumulative \$346 million	Cumulative 788 projects	Cumulative 179 projects	Cumulative 967 projects

*Not including BIRD Energy and BIRD HLS/First Responders

ABOUT BIRD

The U.S.- Israel Binational Industrial Research and Development (BIRD) Foundation works to encourage cooperation between U.S. and Israeli companies in a wide range of technology sectors by providing funding and assistance in facilitating strategic partnerships for developing joint products or technologies.

BIRD supports projects without receiving any equity or IP rights in the participating companies or technologies. BIRD provides support of up to 50% of a project's budget, beginning with R&D and ending with the initial stages of sales and marketing. BIRD shares the risk and requires repayment if the project achieves revenue.

BIRD's scope extends to Advanced Manufacturing, Agrotechnology, Energy and Environment, Communications, Construction Technology, Electronics, FinTech, Homeland Security and Cyber Security, Life Sciences, Nanotechnology, Semiconductors, Software, Water and other areas of innovative technology with commercial potential.

Since 1977, the Foundation has invested in 967 projects, which have yielded direct and indirect revenues of more than \$10 billion. BIRD approves projects twice a year. Projects are evaluated by expert reviewers appointed by the Israel Innovation Authority (IIA) and the National Institute of Standards and Technology (NIST), U.S. Department of Commerce.

In addition, the Foundation manages the BIRD Energy Program focused on U.S.-Israel joint projects relating to renewable energy and energy efficiency industrial research and development. This program is the implementation of a cooperation agreement

between the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (EERE), the Israel Ministry of Energy jointly with the Israel Innovation Authority. BIRD Energy adheres to the same rules and procedures as BIRD.

Finally, the BIRD Foundation manages the binational program, "NextGen First Responder Technologies," a joint U.S.-Israel program to foster and support the development of advanced technologies for First Responders. This program was established by the U.S. Department of Homeland Security (DHS) and the Israel Ministry of Public Security (MOPS) as part of the agreement between the Government of the United States of America and the Government of the State of Israel on Cooperation in Science and Technology for Homeland Security Matters. The collaboration agreement was designed to improve and enhance the preparedness of national rescue forces including fire, police and first-aid units and their capabilities in the field. This program supports collaborations between U.S. and Israeli companies and allows for universities and research institutions to participate by partnering with a company/corporate entity.



APPROVED PROJECTS - JUNE & DECEMBER 2017

AGROTECHNOLOGY



Israel Co.	U.S. Co.	Title of Project
A.A.A Taranis Visual Ltd. Tel Aviv	Advanced Microbial Solutions, LLC TX	Crop Abiotic Stress Detection and Prevention
Farm Dog Technologies Ltd. Tel Aviv	Deere & Co. (John Deere) IA	Decision Support Engine and Enabler of Variable Rate Application of Pesticides

ENERGY, WATER, ENVIRONMENT



Israel Co.	U.S. Co.	Title of Project
AgRobics Ltd. Shefa-Amr	Bennett & Bennett, Inc. CA	Food Processing Plant Wastewater Treatment via a Commercial and Innovative Anaerobic Approach
RoniPal Israel 2000 Ltd. Tel Aviv	Oreo, LLC TX	On Site Frozen Gel Pack Dispensing Machines

ELECTRONICS/SOFTWARE



Israel Co.	U.S. Co.	Title of Project
Isorad Ltd. Yavne	Synrad, a division of Novanta, Inc. WA	Raven: Synrad/Isorad CO2 Laser Development
OpSys Technologies Ltd. Holon	sdPhotonics, LLC FL	VCSEL LIDAR Optical Engine
ImageSat Israel Ltd. Or Yehuda	Vioozer, Inc., dba Balcony CA	Footprint

COMMUNICATION



Israel Co.	U.S. Co.	Title of Project
NSLComm Ltd. Airport City	Space Micro, Inc. CA	Space Qualified Nano Satellite SDR Ka-Band Modem with Antenna and Feed for High Band Communications
RunEL NGMT Ltd. Rishon LeZion	Anokiwave, Inc. CA	Fastest F5GP Platform

APPROVED PROJECTS - JUNE & DECEMBER 2017

HEALTHCARE IT



Israel Co.	U.S. Co.	Title of Project
MyndYou (M.You Cognitive Technologies Ltd.) Tel Aviv	Genesis Healthcare, Inc. PA	V2U – MyndYou Data-Driven Care Delivery
Nutrino Health Ltd. Tel Aviv	Welltok, Inc. MA	Nutrino for Café Well Platform
PillTracker 2015 Ltd. Tel Aviv	Target Health, Inc. NY	Medication Tracking – Drug Compliance Saves Lives

HOMELAND SECURITY



Israel Co.	U.S. Co.	Title of Project
Motorola Solutions Israel Ltd. Airport City	Neurala, Inc. MA	On-Edge Video Analytics for Public Safety (Edge.VA)
C4 Command & Control Systems Ltd. Tel Aviv	Churchill Navigation, Inc. CO	Airborne AR Mission System for First Responders

LIFE SCIENCES



Israel Co.	U.S. Co.	Title of Project
MindMatic Ltd. Tel Aviv	DermaSensor, Inc. FL	DermaSensor Eye Image Recognition for Suspicious Lesions
Atvio Biotech Ltd. Nesher	The Secant Group, LLC PA	3D Culture Platform of Therapeutic Manufacturing using Advanced Biomaterials
Check-Cap Ltd. Haifa	Medi-Physics, Inc. dba GE Healthcare WI	Development of C-Scan Colon Cancer Screening System for High Volume Manufacturing and Distribution Process to the U.S. Market

OTHER

Israel Co.	U.S. Co.	Title of Project
Melodea Ltd. Rehovot	ICL Performance Products LP MO	Development of Cellulose Nano Crystals (CNC) based Formulations for Innovative Environmentally Friendly Architectural and Industrial Water-based Coatings

BIRD ENERGY

“BIRD Energy” is the implementation of a cooperation agreement between the U.S. Department of Energy’s Office of Energy Efficiency and Renewable Energy (EERE), the Israel Ministry of Energy jointly with the Israel Innovation Authority, and the BIRD Foundation. BIRD Energy was launched in 2009.

This cooperation is based on the Energy Independence and Security Act of 2007, and the Israeli Government’s approval of the program in 2008, which includes cooperation between the U.S. and Israel to promote and support joint research collaboration relating to Alternative Energy and Energy Efficiency.

BIRD Energy projects address energy challenges and opportunities of interest to both countries while focusing on commercializing clean energy technologies that improve economic competitiveness, create jobs and support innovative companies.








“BIRD Energy” adheres to the same rules and procedures as BIRD.

BIRD Energy Statistics 2009 - 2017

Approved Projects	Signed Projects ¹	Funding from Governments	Grant Payments ²	Repayments ³
42	30	\$29.70 M	\$13.99 M	\$1.17 M

1. Signed projects up to December 31, 2017 | 2. Includes payments to projects that have reached termination during the reporting period and to projects that are still in development stage | 3. Repayments from 4 projects

Approved Projects - BIRD Energy - 2017

 Brenmiller Energy Ltd.  Power Authority of the State of New York Development of a high temperature storage based CHP system	 CelDezyner Ltd.  AdvanceBio, LLC Development of a process for production of ethanol from lignocellulosic feedstocks	 NanoSpun Technologies Ltd.  Technology Holding, LLC Biomass conversion to isoprene and Jet Fuel	 SoftWheel Ltd.  Detroit Bikes, LLC Development of an energy-efficient, low-maintenance, high-performance bicycle	 TerraGenic Ltd.  Triton Systems, Inc. Development of a safe hydrogen transport and storage system
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BIRD Energy Executive Committee

Members of the BIRD Energy Executive Committee include:

Mr. Robert Sandoli, Director, International Program Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy

Dr. Bracha Halaf, Chief Scientist, Israel Ministry of Energy

Dr. Katya Delak, (representing BIRD Board of Governors), Office of International Academic Affairs, NIST, U.S. Department of Commerce

Others who have acted on behalf of the Executive Committee during 2017

Dr. Elena Berger, Senior Policy Advisor, Office of Energy Efficiency and Renewable Energy (EERE), International Program, U.S. Department of Energy

Ms. Sandra Dickison, International Advisor, Office of Energy Efficiency and Renewable Energy (EERE), International Program, U.S. Department of Energy

Dr. Gideon Friedman, Head, Renewable Energy and Electricity Grid, Israel Ministry of Energy

Mr. Israel Shamay, Executive Director Strategic Initiatives and Head of the Americas Operations, Israel Innovation Authority

Dr. Ami Ben Shalom Friedman, Senior R&D Consultant, Israel Innovation Authority

BIRD HLS / FIRST RESPONDERS

NextGen First Responder Technologies

Under the agreement between the Government of the United States of America and the Government of the State of Israel on Cooperation in Science and Technology for Homeland Security Matters, the U.S. Department of Homeland Security (DHS) and the Israel Ministry of Public Security (MOPS) established a cooperative activity to foster and support U.S.-Israel joint development of advanced technologies for First Responders.

This Program is managed by the BIRD Foundation.



“NextGen First Responder Technologies” follows the BIRD Foundation’s rules and procedures.

BIRD First Responders Statistics 2016-2017

Approved Projects	Signed Projects	Funding from Governments	Grant Payments ¹
5	4	\$4.00 M	\$0.64 M

1. Includes payments to projects that are in the development stage



Approved Projects - First Responders - 2017

 **Beeper Communications Israel Ltd.**
 **Mantaro Networks, Inc.**

Development of an unmanned search and rescue system

 **Elbit Systems Land and C4I Ltd.**
 **M87, Inc.**

Development of a public safety off-network broadband communications system using multi-hop WiFi/LTE/D2D communications (ProSE) technology

 **Simlat Ltd.**
 **Sinclair Community College**

Development of an autonomous drone-based search & rescue solution

Lead Program Representatives

Mr. Daniel Cotter, Science and Technology, First Responders Group, U.S. Department of Homeland Security

Mr. Yaron Kron, Head of the Technology Division, Israel Ministry of Public Security

Other Representatives

Ms. Pinal Shah, Export Controls Office, U.S. Department of Homeland Security

Mr. John Han, National Programs Office, Science and Technology, U.S. Department of Homeland Security

Mr. Nimrod Blumkin, Consultant, Israel Ministry of Public Security

Dr. Katya Delak, Office of International Academic Affairs, National Institute of Standards and Technology, U.S. Department of Commerce

PRESIDENT REUVEN "RUVI" RIVLIN AT BIRD'S 40 YEARS ANNIVERSARY



"The relationship between Israel and the United States is perhaps the most special friendship between any two countries in the world.

It is a friendship between peoples.

It is a friendship based on shared values, common concerns, and also, shared opportunities.

The BIRD Foundation is perhaps the best example of how we come together.

Together in innovation, in development and in cooperation.

You have given nearly 340 million dollars to nearly 1000 projects in the fields of Energy, Water and Agriculture and Cyber, Healthcare, Life Sciences and many many more.

With your support, Israelis and Americans are working together, to answer the most important questions that face us all today.

The BIRD Foundation is an example to the whole world. It is testament to the deep friendship, between our two peoples and our shared commitment to build a better future together.

I wish you all many more years of success.

Thank you. Thank you, all of you. And Shalom to all of you from Jerusalem."

Source: Recorded video greetings
Photo: Mark Neiman / GPO

EXAMPLES OF SUCCESS STORIES: ECONOMIC & SOCIAL IMPACT

 SCD

 Quantum Imaging

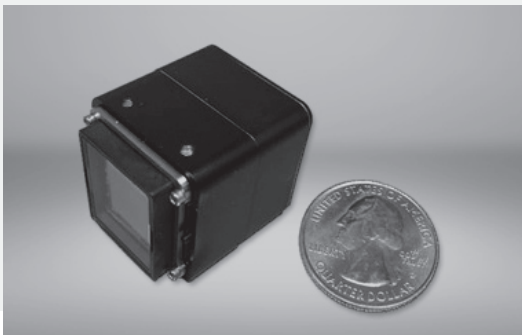
Uncooled VGA SWIR Camera

Develop a low cost VGA SWIR camera for diverse applications.

The project was successfully completed, resulting in a one-inch camera with low power dissipation and the required performance, by applying an innovative packaging concept and advanced algorithms.

The cooperation resulted in the acquisition of Quantum Imaging by SCD.

Approved in December 2014



 mPrest Systems

 Power Authority of the State of New York

Monitor and Control Power Grid

Develop an advanced command and control system to monitor, predict, prevent and control main assets in the power system.

NYPA's partnership with mPrest has proven to be a highly successful relationship. The ability to accurately predict potential transformer failures is the most effective solution for reducing unplanned power plant and grid downtime, maintenance costs and operational risks. The system has already proven to be able to accurately predict transformer health beyond that available in the industry.

Approved in June 2015



 Insightec

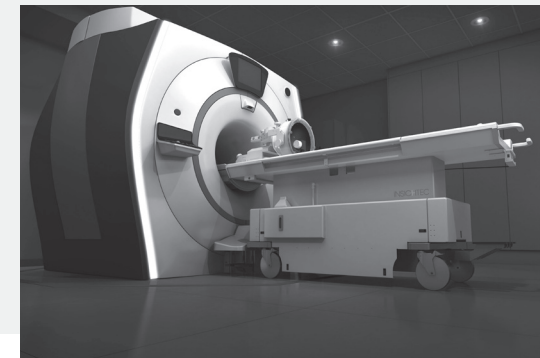
 Focused Ultrasound Foundation

Non-Invasive Brain Surgery for Movement Disorders

Completion of the clinical development of MR guided focused ultrasound (MRgFUS) treatment for patients suffering from movement disorders (essential tremors), which is the most common movement disorder affecting ~5M patients in the USA and millions more worldwide.

The project was successful and the device, Exablate Neuro, received FDA-approval for the treatment of essential tremor in 2016.

Approved in June 2013



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BIRD
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