

**BIRD**

Israel-U.S.

Binational Industrial Research  
and Development Foundation



ANNUAL REPORT 2021

**BIRD FOUNDATION**

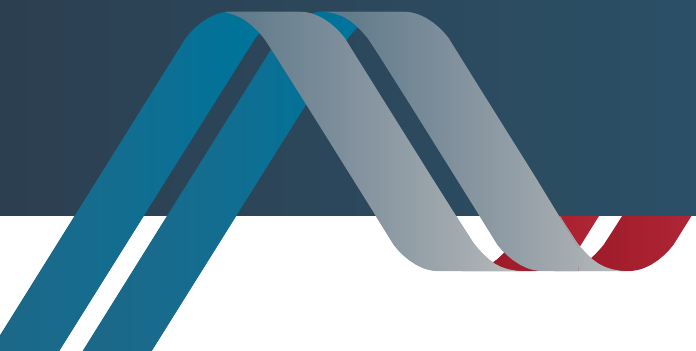
Accelerating Growth Through Strategic Partnerships



# BIRD'S

## MISSION STATEMENT

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



# EXECUTIVE DIRECTOR'S MESSAGE



The BIRD Foundation is a well-established U.S.-Israel cooperation framework that serves as a model for other countries wishing to collaborate with the U.S. The BIRD Foundation has, rapidly and efficiently, incorporated additional funding to create new programs that support collaborations between U.S. and Israeli researchers and companies leading to breakthrough technologies that are of mutual benefit to both countries.

During 2021, we saw an unprecedented number of U.S.-Israel R&D collaboration initiatives introduced in the U.S. Congress. One was a U.S.-Israel healthcare cooperation program that received initial funding of \$2M for FY'2021, as well as authorization for funding until FY'2023 (\$4M, annually). Another was a U.S.-Israel Artificial Intelligence cooperation program with legislation introduced in both the House of Representatives and the Senate. It proposes the annual authorization of \$10M for the years FY'2022-FY'2026. Finally, a U.S.-Israel Cybersecurity cooperation program proposed legislation included in the National Defense Authorization Act of FY'2022 authorizing \$6M annually for the years FY'2022-FY'2026 (the NDAA was signed by President Biden at the end of 2021).

The above initiatives are in addition to the ongoing energy and homeland security programs supported by Congress for many years (see Page 10 for a report on BIRD Energy, Page 12 for a report on the U.S.-Israel Energy Center and Page 14 for a report on BIRD HLS).

Various innovation indexes show that, with regard to global competition in innovation, both the U.S. and Israel should remain vigilant. For example, the Bloomberg Innovation Index ranks Israel as #7 and the U.S. as #11.

The experience, commitment and prestige of the BIRD Foundation are key factors that allow for rapid and effective implementation of these new U.S.-Israel R&D collaboration initiatives, which are directed at strengthening U.S.-Israel ties by boosting investment in innovation and jointly confronting the global competitive environment.

In Israel, as the year 2021 concluded, we saw exceptional macro-economic figures with 8.1% growth in GDP (the original forecast at the end of 2020 was about 2%). Close to \$26B was raised by the hi-tech sector (more than doubling the 2020 figure) and dozens of start-up companies became "unicorns" (valued at over \$1B).

Even in a year that saw significant funding raised, if we take a closer look at the substantial funding that flowed into Israeli start-ups, close to 80% went to sectors identified as having relatively rapid returns, such as enterprise IT and cybersecurity. However, it is important to note that even in the cybersecurity sector only 3% was invested in seed-level companies, which shows that there is a heavy bias towards less risky investments.

This is precisely where government funded mechanisms, such as the BIRD Foundation, come into play. As shown in the Activity Summary for 2021 (Page 6), 70% of the approved projects were in sectors for which there is less private funding, such as Life Sciences, Energy and Agrotechnology.

The recently launched cybersecurity consortium, part of the U.S.-Israel Energy Center, is an excellent example of a higher risk U.S.-Israel collaboration, equally funded by both governments (see Page 13).

It is impossible to conclude without addressing the COVID-19 pandemic. Year 2021 was far from normal with few opportunities to conduct face-to-face meetings and activities. Even now, as we enter 2022, we still face restrictions but are hopeful that this year will allow for many more in-person interactions which, at the end of the day, are critical to the success of collaborations and the fulfillment of the BIRD Foundation's mission.

# BOARD OF GOVERNORS

## U.S. GOVERNORS



**MS. MOJDEH BAHAR | co-Chair**  
Associate Director for Innovation and  
Industry Services, NIST  
Department of Commerce



**MR. ANTHONY MARCUS**  
Director  
Middle East and North Africa  
International Affairs  
Department of Treasury



**MR. REECE SMYTH**  
Director  
Office of Science and Technology Cooperation  
Bureau of Oceans and International Environmental  
and Scientific Affairs Department of State



**DR. JONATHAN MARGOLIS**  
Governor (serving 2011 - September 2021)  
Former Deputy Assistant Secretary  
Bureau of Oceans, International Environmental and Scientific Affairs  
Department of State

## ISRAEL GOVERNORS



**DR. AMIRAM APPELBAUM | co-Chair**  
Chief Scientist  
Ministry of Economy and Industry  
Chairman, Israel Innovation Authority



**MR. RAM BELINKOV**  
Director General  
Ministry of Finance



**DR. RON MALKA**  
Director General  
Ministry of Economy and Industry



# BOARD OF GOVERNORS

## DESIGNEES WHO HAVE ACTED ON BEHALF OF THE BOARD DURING 2021

**Dr. Lev Drucker** Israel Ministry of Finance

**Mr. Gil Erez** Israel Ministry of Economy and Industry

**Dr. Riju Simal** U.S. Department of State

## ADVISORS

**Dr. Harry Hertz**

**Dr. Phillip Singerman**

## JOINING THE BOARD MEETINGS DURING 2021

**Mr. Gregory Basile** U.S. Department of Treasury

**Dr. Ami Ben Shalom** Israel Innovation Authority

**Mr. Andrew Conn** U.S. Department of Commerce

**Mr. Christopher Green** U.S. Embassy, Jerusalem

**Ms. Yifat Hadaya** Israel Innovation Authority

**Ms. Nofar Hamrany** Israel Innovation Authority

**Ms. Jacqueline Homann** U.S. Department of State

**Ms. Hae-Jeong Lee** U.S. Department of Commerce

**Dr. Einat Magal** Israel Ministry of Economy and Labor

**Mr. Jason McInerney** U.S. Department of State

**Ms. Magdalena Navarro** U.S. Department of Commerce

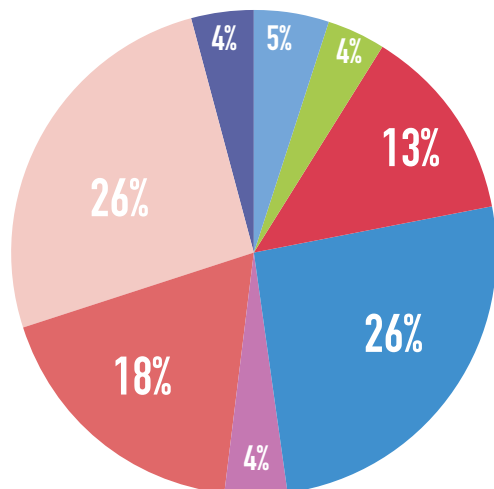
**Ms. Nili Shalev** Israel Innovation Authority

**Ms. Tara Shirazi** U.S. Department of Treasury

**Dr. Tom Wang** U.S. Department of Commerce

# ACTIVITY SUMMARY

## STATISTICS - 2021



## APPROVED PROJECTS

Sector	Total
Agrotechnology	1
Communications	1
Electronics/Software	3
Energy, Water, Envir. *	6
Healthcare IT	1
HLS & Cyber Security **	4
Life Sciences	6
Other	1
<b>Total</b>	<b>23</b>

\* includes 6 BIRD Energy projects

\*\* includes 2 BIRD HLS projects

## FINANCIAL SUMMARY - 2021

	Income				Grant Payments	
	Endowment		Repayments			
	Year (\$M)	Cum. (\$M)	Year (\$M)	Cum. (\$M)	Year (\$M)	Cum. (\$M)
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
2018	8	289	2.4	109	8.7	355
2019	8	297	1.9	111	7.8	363
2020	8	305	2.2	113	8.8	372
<b>2021</b>	<b>8</b>	<b>313</b>	<b>2.3</b>	<b>115</b>	<b>9.0</b>	<b>381</b>

### 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. That annual income is at a level that allows BIRD to meet all its financial obligations.

Since its inception, BIRD has received interest of approximately **\$313** million on the Endowment Fund and Repayments of approximately **\$115** million from successful projects. Over that period, Grant Payments to companies have reached approximately **\$381** million (all amounts are nominal, not adjusted to inflation).

## ACTIVITY SUMMARY - 2021

Direct Sales	Repayments	Grant Payments	Approved Projects		
2021 \$46 million	2021 \$2.3 million	2021 \$9 million	Full-scale projects (2021) 15 projects*	Mini projects (2021) 0 projects	Total projects (2021) 15 projects
Cumulative \$5.3 billion	Cumulative (from 477 companies) \$115 million	Cumulative \$381 million	Cumulative 854 projects	Cumulative 179 projects	Cumulative <b>1,033</b> projects

# 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 the development of joint products 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 only if the project achieves revenue. BIRD supports projects without receiving any equity or IP rights in the participating companies or technologies.

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

Since 1977, the Foundation has approved investments in over 1000 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.

The Foundation also manages BIRD Energy, a program which promotes and supports U.S.-Israel joint development projects relating to clean energy technologies. This program is the implementation of a cooperation agreement between the U.S. Department of Energy and the Israel Ministry of Energy, along with the Israel Innovation Authority. BIRD Energy adheres to the same rules and procedures as BIRD.

Another binational program managed by the BIRD Foundation is "BIRD Homeland Security (HLS)." BIRD HLS is a joint U.S.-Israel program that aims to foster and support

the development of advanced technologies for First Responders, technologies and methods to secure critical infrastructure and public facilities, safe and secure cities, border protection, including maritime security, technologies for the use of unmanned aerial systems and law enforcement supporting technologies to combat cyber-crime. 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.

In 2018, the BIRD Foundation was selected to manage the U.S.-Israel Energy Center, fully named: The U.S.-Israel Center of Excellence for Energy, Engineering and Water Technology.

The goal of the Energy Center, established by the U.S. Department of Energy, Israel Ministry of Energy and the Israel Innovation Authority, is to promote energy security and economic development through the research and development of innovative energy technologies.

The Energy Center is a 5-year program, covering four topics: Fossil Energy, Energy Storage, Energy Cyber and Energy-Water Nexus. For each topic, a consortium of U.S. and Israeli companies and/or universities and/or research institutions will jointly perform research and development, leading to know-how/technology transfer from academia to industry and significantly accelerating deployment of technologies.

# APPROVED PROJECTS – JUNE & DECEMBER

## AGROTECHNOLOGY



Israeli Co.	U.S. Co.	Title of Project
<b>Agridrones Ltd.</b> Kfar Saba	<b>ISCA Technologies, Inc.</b> Riverside, CA	Intelligent Drone Fitted Precision Dispersion System

## COMMUNICATIONS



Israeli Co.	U.S. Co.	Title of Project
<b>Over-Sat Ltd.</b> Netanya	<b>MIL-SAT LLC</b> Surry, VA	A LEO Satellite End-User Mobile Terminal

## ELECTRONICS/ SOFTWARE



Israeli Co.	U.S. Co.	Title of Project
<b>Civan Advanced Technologies Ltd.</b> Tel Aviv	<b>AMET, Inc.</b> Rexburg, ID	ALWS Advanced Laser Welding Systems
<b>Kav Medida Ltd.</b> Herzliya	<b>Skycatch, Inc.</b> San Francisco, CA	High Precision Indoor Scanning and Analytics
<b>SkillReal Ltd.</b> Ramat Gan	<b>Siemens DI</b> Plano, TX	SkillReal Digital Twin Alignment

## HEALTHCARE IT



Israeli Co.	U.S. Co.	Title of Project
<b>Yonalink</b> Jerusalem	<b>TriaJectory</b> Closter, NJ	Bringing New Therapies to Market Faster than Ever Before

“The BIRD Foundation promotes cooperation between U.S. and Israeli companies who possess strong technical capabilities and market insights. We are excited about the potential impact of this cycle’s selected proposals on industries of strategic importance to both Israel and the United States. With technologies ranging from cybersecurity to smart medical devices and innovative therapeutics, from improvements to industrial manufacturing and fabrication applications to cost-savings in agriculture, the proposals outline plans for the development of unique products solving complex problems. I join my colleagues in congratulating this cycle’s awardees. ”

Mojdeh Bahar | U.S. Co-Chair | December 2021



## HOMELAND SECURITY (HLS) & CYBER SECURITY



Israeli Co.	U.S. Co.	Title of Project
<b>Cyberint Technologies Ltd.</b> Petach Tikva	<b>Secure Systems Innovation Corporation</b> Arlington, VA	Leveraging Operational Cyber Threat Intelligence to Drive Strategic Decisions - A Data Science Approach
<b>Sixgill Ltd.</b> Tel Aviv	<b>Basis Technology Corporation</b> Somerville, MA	Next Generation Threat Intelligence Platform for the Cyber Domain

## LIFE SCIENCES/MEDICAL DEVICES



Israeli Co.	U.S. Co.	Title of Project
<b>GrayMatters Health Ltd.</b> Haifa	<b>The McLean Hospital Corporation</b> Belmont, MA	Personalizing Self Neuro-Modulation Therapy for Major Depressive Disorder (MDD) using Clinical Biomarkers for MDD Subtypes
<b>SIRT6 Ltd.</b> Ness Ziona	<b>Regulus Therapeutics Inc.</b> San Diego, CA	An Innovative Treatment for Geriatric Frailty based on Increasing SIRT6 Levels
<b>Cordio Medical Ltd.</b> Or Yehuda	<b>International Health LLC</b> Norwalk, CT	Mobile as Medical Device by Speech: HearO System for Remote Monitoring of Heart Failure FDA Pivotal Study
<b>HiL Applied Medical</b> Jerusalem	<b>Proton International</b> Alpharetta, GA	Ultra-Compact, Affordable Proton Beam Therapy
<b>Mego Afek AC Ltd.</b> Kibbutz Afek	<b>Edamame Health, Inc.</b> Napa, CA	Lymphedema Treatment for Home Patients
<b>Sensifree Ltd.</b> Kfar Saba	<b>The Cleveland Clinic Foundation</b> Cleveland, OH	Non-Invasive, Continuous Blood Pressure Monitor for Hospital Use

## OTHER



Israeli Co.	U.S. Co.	Title of Project
<b>TempraMed Israel Ltd.</b> Ein Harod Ihud	<b>Concept Group LLC</b> Palm Beach Gardens, FL	Thermal Insulation to Shield the EpiPen Auto-Injector from Exposure to High Temperatures

“ Our long-standing collaboration with the BIRD Foundation has yielded outstanding technological innovations following successful collaborations between Israeli and American companies. We are proud that, once again, the BIRD Board of Governors has selected projects reflecting a variety of sectors such as agriculture, medicine, cybersecurity, and construction technology. We are hopeful that projects supported by BIRD, if successful, will improve the health and quality of life for citizens of both countries and beyond. We wish the awarded companies much success and look forward to seeing them achieve successful outcomes. ”

**Ami Appelbaum | Israeli Co-Chair | December 2021**

# BIRD ENERGY

BIRD ENERGY develops innovation through U.S.-Israel cooperation in a range of clean energy technologies including renewable energy, energy efficiency, natural gas and energy-water technologies.

The program is the implementation of a cooperation agreement between the U.S. Department of Energy, the Israel Ministry of Energy jointly with the Israel Innovation Authority and the BIRD Foundation.

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.

Projects must include one U.S. and one Israeli company, or a company paired with a research institution. The partners need to present a project that involves innovation and demonstrates significant commercial potential. Awarded projects receive conditional grants of up to \$1M per project.

BIRD Energy was launched in 2009 and follows the BIRD Foundation's rules and procedures.

## BIRD ENERGY STATISTICS 2009-2021

Approved Projects	Signed Projects <sup>(1)</sup>	Funding from Governments	Grant Payments <sup>(2)</sup>	Repayments <sup>(3)</sup>
72	54	\$45.70M	\$26.99M	1.38

1.Signed projects until December 21, 2021

2.Payments to projects in development stage

3.Repayments from 7 projects

## BIRD ENERGY EXECUTIVE COMMITTEE

### Members of the BIRD Energy Executive Committee include:

**Mr. Joshua Volz** Acting Deputy Assistant Secretary for Europe, Eurasia, Africa and the Middle East, Office of International Affairs, U.S. Department of Energy

**Dr. Gideon Friedmann** Acting Chief Scientist, Israel Ministry of Energy

**Mr. Nathaniel Mason** Office of European & Eurasian Affairs, U.S. Department of Energy

**Ms. Nili Shalev** VP for the International Division, Israel Innovation Authority

**Mr. Andrew Conn** (representing BIRD Board of Governors) International Program Manager U.S. Department of Commerce

### Others who participated in the Executive Committee Meeting:

**Dr. Yael Barash Harman** Head of Technologies & Renewable Energies, Office of the Chief Scientist, Israel Ministry of Energy

**Dr. Daniel Blumenthal** Department of Energy Attaché, U.S. Embassy, Jerusalem

**Ms. Yifat Hadaya** North America Desk, Israel Innovation Authority

**Dr. Einat Magal** Deputy Chief Scientist, Israel Ministry of Economy and Industry

**Mr. Jason McInerney** U.S. Department of State

**Mr. Josh McKearin** Deputy Director for Europe and Eurasian Affairs, U.S. Department of Energy

**Ms. Alla Polotsky** U.S. Embassy, Jerusalem

“ The program promotes and funds innovation which is of mutual benefit for the United States and Israel with the focus on clean energy technologies that support the reduction of carbon emissions.....we are committed to continuing and enhancing our collaboration in clean energy with the United States. ”

**Minister Karin Elharrar | Israel Ministry of Energy**

# BIRD ENERGY APPROVED PROJECTS BY SECTORS

## BATTERIES



Israeli Co.	U.S. Co.	Title of Project
<b>Sony Semiconductor Israel</b> Hod Hasharon	<b>Imprint Energy Inc.</b> Alameda, CA	Safe, sustainable, and high-power zinc printed batteries to be manufactured and integrated into thin and flexible cellular Internet of Things (IoT) smart tags for tracking packages, improving logistics processes, and reducing supply chain waste

## ENERGY-WATER NEXUS



Israeli Co.	U.S. Co.	Title of Project
<b>Environmental Services Company Ltd.</b> Neot Hovav	<b>374Water Systems, Inc.</b> Durham, NC	Energy and Resource Recovery Systems from Hazardous Organic Waste using Supercritical Water Oxidation Technology

## ELECTRIC VEHICLES



Israeli Co.	U.S. Co.	Title of Project
<b>E.V.R. Motors Ltd.</b> Petach Tikva	<b>Continuous Solutions LLC</b> Portland, OR	IMP - Integrated Miniaturized Powertrain

## SMART GRID



Israeli Co.	U.S. Co.	Title of Project
<b>Synvertec Ltd.</b> Herzliya	<b>Rhombus Energy Solutions</b> San Diego, CA	Synchronverter – A Dynamic and Autonomous Inverter Utilizing a Unique Control Algorithm allowing 100% of Renewable Generation by Providing Grid Stability Solutions for Inverter-based Applications

## ENERGY EFFICIENCY



Israeli Co.	U.S. Co.	Title of Project
<b>Kinetics Ltd.</b> Airport City	<b>UAV Turbines, Inc.</b> Miami, FL	Ultra-Portable Turbo- Generator System

## STORAGE



Israeli Co.	U.S. Co.	Title of Project
<b>AGM Communications</b> Lower Galilee	<b>Element 16 Technologies, Inc.</b> Glendale, CA	Sulfur Thermal Storage for Industrial Applications

“ BIRD Energy harnesses the tremendous combined research and development capabilities of American and Israeli research institutions and universities, and businesses, to scale up carbon-free technologies and super-charge the rapidly growing international clean energy economy. ”

**Secretary Jennifer M. Granholm | U.S. Department of Energy**

# U.S.- ISRAEL ENERGY CENTER

The U.S.-Israel Energy Center (full name: The U.S.-Israel Center of Excellence in Energy, Engineering and Water Technology) was authorized by the U.S. Congress in the U.S.-Israel Strategic Partnership Act of 2014 and funded in the amount of \$4M for each of the years FY 2018 - FY2021. In 2016, the Israeli Government approved equivalent funding to expand the U.S.-Israel Cooperation.

The Israel Ministry of Energy (MOE), the Israel Innovation Authority (IIA) and the Department of Energy (DOE) approached the BIRD Foundation to manage and operate the program. BIRD's Board of Governors approved BIRD's involvement in September 2018.

In June 2018, the DOE and the MOE signed an Implementation Agreement of the U.S.-Israel Energy Center ("Energy Center"). The goal of the Energy Center is to promote energy security and economic development through the research and development of innovative energy technologies by facilitating cooperation between consortia comprised of U.S. and Israeli companies, universities and research institutions in four Topic Areas: (1) Fossil Energy; (2) Energy Storage; (3) Cyber Security for Energy Infrastructure; (4) Energy-Water Nexus. At the Energy Center Executive Committee Meeting which was held in Washington D.C., on March 4, 2020, three consortia were selected for Topics (1), (2) and (4) and were awarded \$27.6M in grants (five-year program, \$55.2M total value, including cost-sharing). These three consortia started their activities in August and September of 2020. More information about the ongoing consortia activities can be found at <https://us-isr-energycenter.org/>.

A second Call for Proposals was issued for Topic (3) Cyber Security for Energy Infrastructure in July 2020 (a three-year program and the expected budget for this topic is up to \$12M). During the Energy Center Executive Committee meeting held on March 16, 2021, the consortium led by Arizona State University (U.S.) and Ben Gurion University (Israel) was selected. The contractual process was completed and the consortium initiated its work on November 1, 2021.

## STATISTICS 2016-2021

Funded Programs/ Consortia	Funding from the Governments <sup>(1)</sup>	Total Grants Approved <sup>(2)</sup>	Grant Payments <sup>(3)</sup>
4	28.0	31.58	6.26

1.Total received from both governments in the Years 2018-2021

2.Total grants approved for the four programs (subject to funding availability)

3.Until December 31, 2021

## Energy Center Executive Committee Members and Participants

Convened on March 16, 2021

### U.S. Members

**Mr. Nathaniel Mason**

Office of European & Eurasian Affairs  
Department of Energy

**Mr. Josh McKearin**

Deputy Director for Europe-Eurasia  
Department of Energy,  
Representing Ms. Andrea Lockwood,  
Deputy Assistant Secretary

### Israeli Members

**Dr. Stela Diamant**

Senior Director, Technology Division  
Israel Innovation Authority  
Representing the CEO of the IIA

**Dr. Gideon Friedmann**

Chief Scientist  
Ministry of Energy

**Visiting guest – Mr. Andrew Light**, Acting Assistant Secretary for International Affairs, U.S. Department of Energy

## BIRD Board of Governors (in advisory role)

**Dr. Riju Srimal** Senior Foreign Affairs Officer, U.S. Department of State

**Dr. Tom Wang** Senior International Program Manager, International and Academic Affairs Office, Director's Office, NIST, Department of Commerce

### Others

**Ms. Yifat Alon-Perel**

Minister for Trade and Economic Affairs  
Israel Embassy, Washington, D.C.

**Mr. Daniel Blumenthal**

U.S. Department of Energy Attaché  
Jerusalem

**Mr. Josh Cohen**

Economic and Trade Office  
Israel Embassy, Washington, D.C.

**Ms. Nili Shalev**

VP, International Division  
Israel Innovation Authority

**Mr. Israel Shamay (deceased)**

Executive Director, North America  
Israel Innovation Authority

## Energy Center Management and Operations

The Energy Center is managed and operated by the BIRD Foundation and its staff, with the support of the following:

**Ms. Tal Fischelovitch** Director of Partnerships

**Ms. Shiri Freund Koren** U.S. Coordinator

**Mr. Uri Attir** Coordinator Energy Cyber

**Dr. Ory Dor** Coordinator Fossil Energy

**Mr. Eynan Lichterman** Coordinator Energy Cyber

**Dr. Zvi Tamari** Coordinator Energy Storage

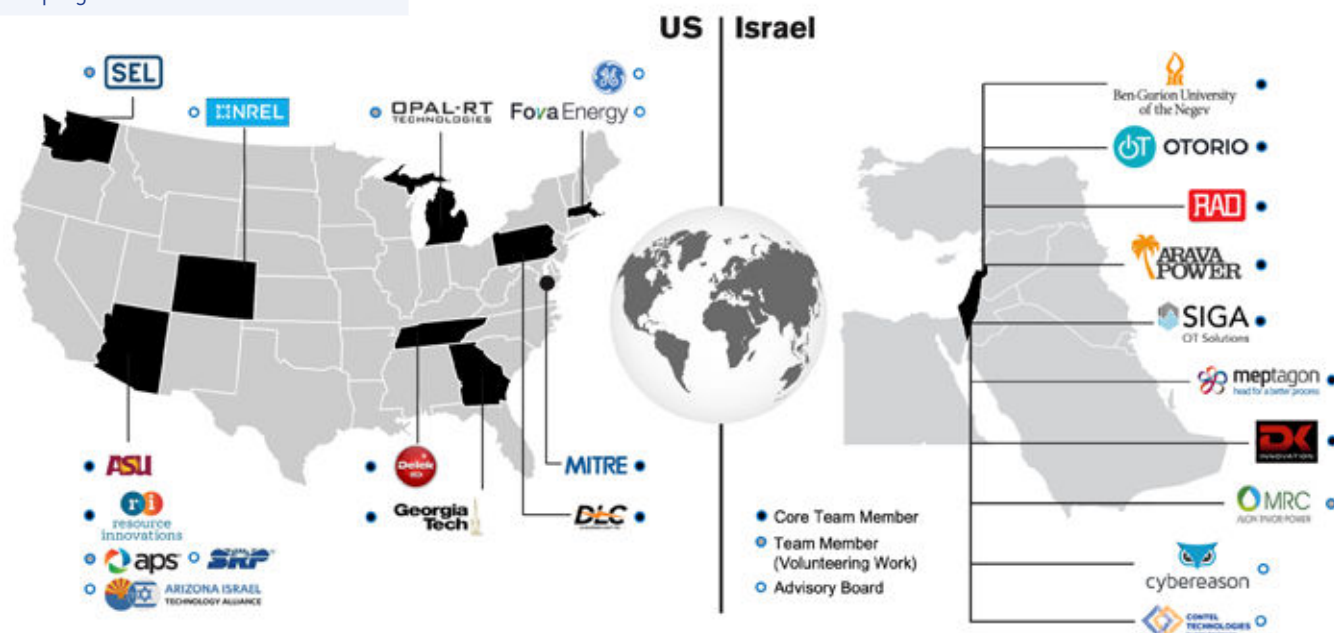
# AWARDED CONSORTIUM



## ENERGY CYBER CONSORTIUM

Comprehensive Cybersecurity Technology for Critical Power Infrastructure AI- Based Centralized Defense and Edge Resilience, ICRDE consortium.

	U.S. Entities	Israeli Entities
Leaders	Arizona State University	Ben -Gurion University of the Negev
Consortium Members	Georgia Institute of Technology	OTORIO
	Nexant	RAD Data Communications
	Delek US	SIGA OT Solutions
	Duquesne Light Company	Arava Power
	MITRE Corporation	DK Innovation
		Meptagon



The ICRDE Consortium, including consortium members and others (image provided by ASU)

# BIRD HLS - HOMELAND SECURITY 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.

BIRD HLS projects address six innovation areas as defined by DHS S&T and MOPS:

Cyber Crime, Secure Critical Infrastructure and Public Facilities, Safe and Secure Cities, Border protection, Unmanned Aerial Systems and Technologies for First Responders.

The BIRD HLS program is managed by the BIRD Foundation and follows the BIRD Foundation's rules and procedures.

## BIRD HLS STATISTICS 2016-2021

Approved Projects	Signed Projects <sup>(1)</sup>	Funding from Governments	Grant Payments <sup>(2)</sup>
14	10	\$11.91M	\$6.03 M

1. Signed projects until December 31, 2021

2. Payments to all projects in development stage

## BIRD HLS APPROVED PROJECTS - 2021

Israeli Co.	U.S. Co.	Title of Project
<b>Carbyne Ltd.</b> Tel-Aviv	<b>CentralSquare Technologies</b> Lake Mary, FL	Real-Time Multi-Media Emergency Call (911) Communications for Public Safety First Responders
<b>Ciconia Ltd.</b> Ness Ziona	<b>Sagotech Avionics Inc.</b> White Salmon, WA	Mid-Air Conflict Management and Collision Avoidance for 1st Responders' Aerial Platforms

## SELECTION COMMITTEE REPRESENTATIVES

**Ms. Megan Mahle** Director, Industry Partnerships, Office of Innovation and Collaboration, Science & Technology Directorate, U.S. Department of Homeland Security  
**Dr. Gad Frishman** Chief Scientist, Israel Ministry of Public Security

## ADDITIONAL COMMITTEE MEMBERS AND OBSERVERS

**Dr. Amiram Appelbaum** Co-Chair of BIRD BOG, Chairman of the Israel Innovation Authority  
**Ms. Mojdeh Bahar** Co-Chair of BIRD BOG, Associate Director for Innovation and Industry Services, NIST, U.S. Department of Commerce  
**Mr. Gregory Basile** International Economist, U.S. Department of Treasury  
**Dr. Lev Drucker** Deputy Chief Economist, Israel Ministry of Finance  
**Mr. Yaron Kron** Head, Technology Section, Israel Ministry of Public Security  
**Mr. Jason McInerney** Team Lead, Office of Science and Technology Cooperation, Bureau of Oceans and International Environmental and Scientific Affairs, U.S. Department of State  
**Ms. Nili Shalev** VP International Collaboration Division, Israel Innovation Authority  
**Dr. Riju Srimal** Senior Foreign Affairs Officer, Office of Science and Technology Cooperation, Department of State  
**Dr. Tom Wang** Senior International Program Manager, International and Academic Affairs Office, Director's Office, NIST, Department of Commerce





# BIRD EVENTS - WEBINAR HIGHLIGHTS



**IATI & BIRD Foundation  
Funding Opportunities (IATI)**  
January 13, 2021



**Current and Future Israel  
- U.S. Collaboration in HLS  
(Connexx)**  
January 26, 2021



**Funding Opportunity: Learn  
about the BIRD Foundation  
Grant (PICC)**  
February 2, 2021



**BIRD HLS - to Leverage  
Collaboration  
(Export Institute)**  
March 10, 2021



**U.S.- Israel Disruptive  
Cleantech Innovation (CICC)**  
March 15-17, 2021



**U.S. - Israel Energy Center  
First Annual Event Webinar**  
April 6, 2021



**How BIRD Funding Helps  
Fight Global Warming  
(NEIBC)**  
April 16, 2021



**Accelerating Growth Through  
Strategic Partnerships  
(Arizona Tech Council)**  
April 27, 2021



**BIRD Energy Program:  
Sparkling Innovation in  
Power Utilities**  
May 19, 2021



**Climate Tech Funding  
Program - Meet the  
Experts Face to Face**  
June 30, 2021



**The BIRD Foundation  
Opportunity**  
July 5, 2021



**Funding Opportunities for  
Illinois - Israel Collaboration**  
July 29, 2021



**Offshore Technology  
Conference**  
August 18, 2021



**Israel Innovation in Digital  
Health and Medical Devices**  
October 20, 2021



**BIRD Foundation Funding  
US-Israeli Innovation**  
November 10, 2021

# SUCCESS STORIES



## Development of rapid field analysis of chlorates, perchlorates, fentanyl, and synthetic opioids using nanotechnology detection sensors

MS Tech, of Israel, and Tekwave Solutions, of Alpharetta, GA, completed the development of a secure platform to detect and identify explosives, narcotics and other threat screening activities and support real-time decision making. The platform was developed for use by government agencies, customs, border control, first responders and private security organizations.

MS Tech, a developer and manufacturer of nanotechnology detection and diagnostics sensors, joined forces with TEKWAVE, a cloud company offering blended manpower and mobile software solutions, to develop a platform that rapidly detects, analyzes and communicates the existence of chlorates, perchlorates, fentanyl and synthetic opioids in the field. The joint project was awarded funding in December 2018 by the BIRD Board of Governors.

As part of the project, MS Tech completed the development of MULTISCAN GEN3, based on its patented High-Frequency Quartz Crystal Microbalance nanotechnology sensors that are able to detect and identify trace particles, vapor, and liquids from different types of surfaces and items using their innovative sample collection techniques.

MS Tech and Tekwave jointly developed ANTEVORTA, a platform that provides GPS/IoT sensor-to-cloud capabilities, robust and scalable architecture and ongoing updates that draw from a library of threats and contaminants.

The combined R&D effort of both companies allows for a more accurate assessment of risk at the initial inspection stage with remote diagnostic capabilities to assess threat detection and false alarm anomalies in real-time.



## Manam Applications and Avisight successfully completed the development of their Unmanned Bridge Survey and Remote Diagnostic Platform

Manam Applications, of Israel, and Avisight, of Las Vegas, NV, completed the development of an unmanned bridge inspection platform that shifts bridge inspections and documentation from traditional manual methods to drone-based automated systems.

Manam Applications, a provider of advanced solutions that inspect the conditions of roads and bridges, joined forces with Avisight, an aerospace video, data collection and distribution service supplier. The BIRD Board of Governors approved their joint project in June 2018.

The companies developed a fully integrated bridge management system that incorporates bridge inspection technology, drones and 3D analysis. The final product offers an efficient, intelligent, fast and straightforward process that can assess and inspect bridge structures without the need for inspectors to be physically lowered onto the bridges by cranes and ropes, causing lane closures and traffic jams.

The companies employed state of the art hardware and software to create a 3D model of the bridge allowing engineers to examine and determine its physical and functional state. The inspection platform system includes a digital twin of the bridge, a detailed 3D mesh model and images providing an accurate assessment of the bridge's condition and a maintenance plan to extend its lifespan.

Manam Applications and Avisight have already completed successful POCs with the Israel Ministry of Transportation and the Nevada Department of Transportation.





# SUCCESS STORIES

 **MyndYou Cognitive Technologies**

 **Cosán Group**

**MyndYou Cognitive Technologies and Cosán Group developed a joint platform to improve remote care with patient engagement based on voice analysis.**

MyndYou Cognitive Technologies of Israel and Cosán Group of New Jersey were awarded a BIRD grant in 2019 to develop MyndYou's AI-based voice analysis technology for remote monitoring and analysis of patient health and integrate it with Cosán Group's care management platform. The combined system allows for remote and continuous patient care coordination with caregivers, physicians and healthcare organizations.

The solution includes a voice bot that initiates weekly calls to high-risk patients that use Cosán's Care Management platform. Based on their proprietary data analytics engine, which detects subtle changes in a patient's voice, the system identifies anomalies in the patient's health and mental condition. Cosan's platform sends HIPAA-compliant alerts, transcripts and actionable data to care teams, and instructs them to follow up with the patients who need them the most.

In the course of the project, the partners validated the joint platform to detect health anomalies, increase patient engagement and improve patient treatment. The solution is targeted for use by both behavioral health and elderly patients.

MyndYou and Cosán Group are working together to increase market outreach and have already started to generate revenue from their joint platform.



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