

BIRD Foundation

Boosting U.S.-Israel Innovation With Non-Dilutive Funding



Wharton Alumni Club (Israel)

February 8, 2022

Israel-United States Binational Industrial Research and Development Foundation

www.birdf.com

BIRD Foundation

BIRD = Binational Industrial Research and Development

Joint fund, established in 1977 as a joint initiative between the US and Israeli governments

Mission

To stimulate, promote and support joint (non-defense) industrial R&D of mutual benefit to Israel and the United States

Funding

Income from interest earned on \$110 million endowment grant and from repayments from successful BIRD projects



BIRD Status in the U.S.

Federal Register

Vol. 60, No. 50

Wednesday, March 15, 1995

Presidential Documents

Title 3—

Executive Order 12956 of March 13, 1995

The President

Israel-United States Binational Industrial Research and Development Foundation

By the authority vested in me as President by the Constitution and the laws of the United States of America, including section 1 of the International Organizations Immunities Act (22 U.S.C. 288), and having found that the Israel-United States Binational Industrial Research and Development Foundation is a public international organization in which the United States participates within the meaning of the International Organizations Immunities Act, I hereby designate the Israel-United States Binational Industrial Research and Development Foundation as a public international organization entitled to enjoy the privileges, exemptions, and immunities conferred by the International Organizations Immunities Act. This designation is not intended to abridge in any respect the privileges, exemptions, or immunities that such organization may have acquired or may acquire by international agreements or by congressional action.

William Clinton

THE WHITE HOUSE,
March 13, 1995.

חוק הקרן הדו-לאומית למחקר ולפיתוח תעשייתיים, תשל"ח-1978 *

- | | |
|---|--------------------|
| 1. בחוק זה – | הגדרות |
| “הקרן” – הקרן הדו-לאומית למחקר ולפיתוח תעשייתיים של ישראל וארצות הברית שהוקמה על פי הסכם הקרן; | |
| “הסכם הקרן” – ההסכם שבין ממשלת ישראל לבין ממשלת ארצות הברית של אמריקה מיום 3 במרס 1976, לרבות תלופי מכתבים בין הממשלות האמורות מיום 18 במאי 1977. | |
| 2. הקרן היא תאגיד כשר לכל זכות, חובה ופעולה משפטית. | תאגיד |
| 3. הקרן תאורגן ותנוהל לפי הסכם הקרן ובהתאם לכללי הנוהל והתקנות שהותקנו על-פיו. | ארגון הקרן והנהלתו |
| 4. בנק ישראל רשאי לקבל פקדונות מאת הקרן. | פקדונות בבנק ישראל |
| 5. הממשלה רשאית, באישור ועדת הכספים של הכנסת, להציע שינויים בהסכם הקרן ולהסכים לשינויים כאמור. | שינויים בהסכם הקרן |
| 6. שר האוצר רשאי להתקין תקנות בדבר מתן פטור ממסים ומתשלומי חובה כאמור בהסכם הקרן. | פטור ממסים |
| 7. שר התעשייה, המסחר והתיירות ממונה על ביצוע חוק זה והוא רשאי להתקין תקנות בכל ענין הנוגע לביצוען של הוראות הסכם הקרן ולמילוי התחייבויותיה של המדינה על פיהן. | ביצוע ותקנות |

מנחם בגין	יגאל הורוביץ
ראש הממשלה	שר התעשייה, המסחר והתיירות
אפרים קציר	
נשיא המדינה	

* נחקק בכנסת ביום ט' בשבט תשל"ח (17 בינואר 1978); הצעת החוק דוברי הסבר פורסמו בח"ח 1318, תשל"ח, עמ' 62.

The Binational Industrial R&D Foundation Law, 1978 (approved by the Knesset on January 17, 1978)

The Foundation is a Corporation for every right, obligation and legal operation

The Foundation will be organized and managed according to the Foundation Agreement [between Israel and the U.S.]

Signed by:

- Efraim Katzir, President
- Menachem Begin, Prime Minister
- Yigal Horovitz, Minister of Industry, Trade and Tourism

BIRD's Board of Governors*

The Foundation's Board of Governors (BOG) consists of six members:
three representatives of the U.S. and three representatives of Israel



Israeli Representatives

Chief Scientist, Ministry of Economy and
Industry and Chairman of the Israel Innovation
Authority
(Israeli co-Chair)

Director General, Ministry of Economy and
Industry

Director General, Ministry of Finance

(or their designees)



U.S. Representatives

Assistant Secretary for S&T, Dept. of Commerce
Permanent Designee: Associate Director for Innovation
and Industry Services, NIST
(U.S. co-Chair)

Assistant Secretary for Oceans and International
Environmental and Scientific Affairs, Dept. of State

Assistant Secretary for International Affairs, Dept. of
Treasury

(or their designees)

*Source: Israel-U.S. Binational Industrial Research and Development Foundation Agreement, March 3, 1976

BIRD – Performance Summary

1977-2021*

- **\$608M**** granted for joint development of innovative technologies and products
- At least the same amount invested by the private sector of both countries, through cost-sharing
- **1033** projects between U.S. and Israeli companies approved
- **\$184M**** repayments from successful projects
- **~\$10B** in sales generated directly and indirectly by BIRD sponsored activities

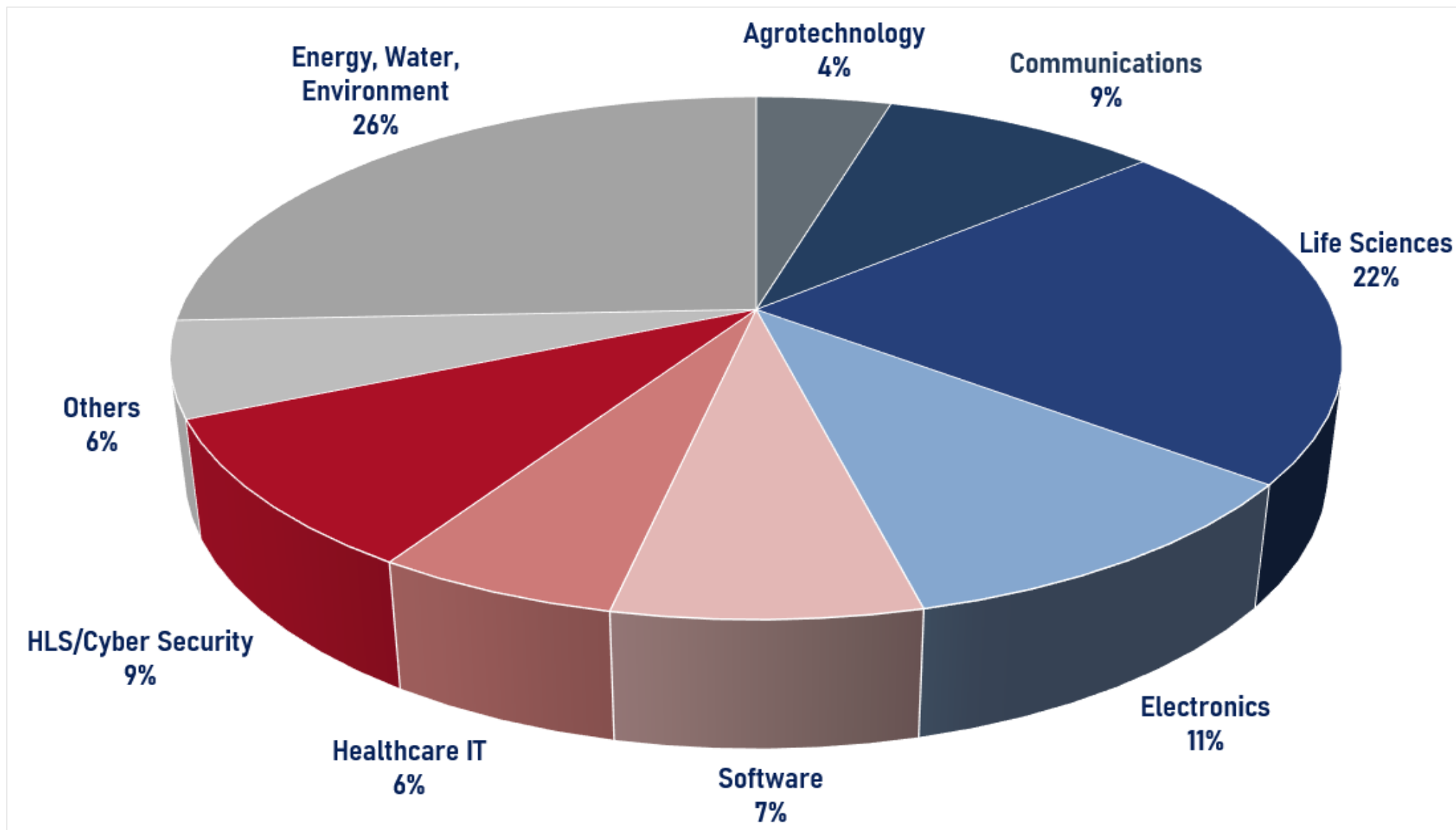


*Since inception, main BIRD program

**CPI-U adjusted

BIRD Foundation – Investment by Sector

2006 - 2021



Including projects from
BIRD Energy & BIRD HLS

BIRD's Activity Generates 10 Major Benefits

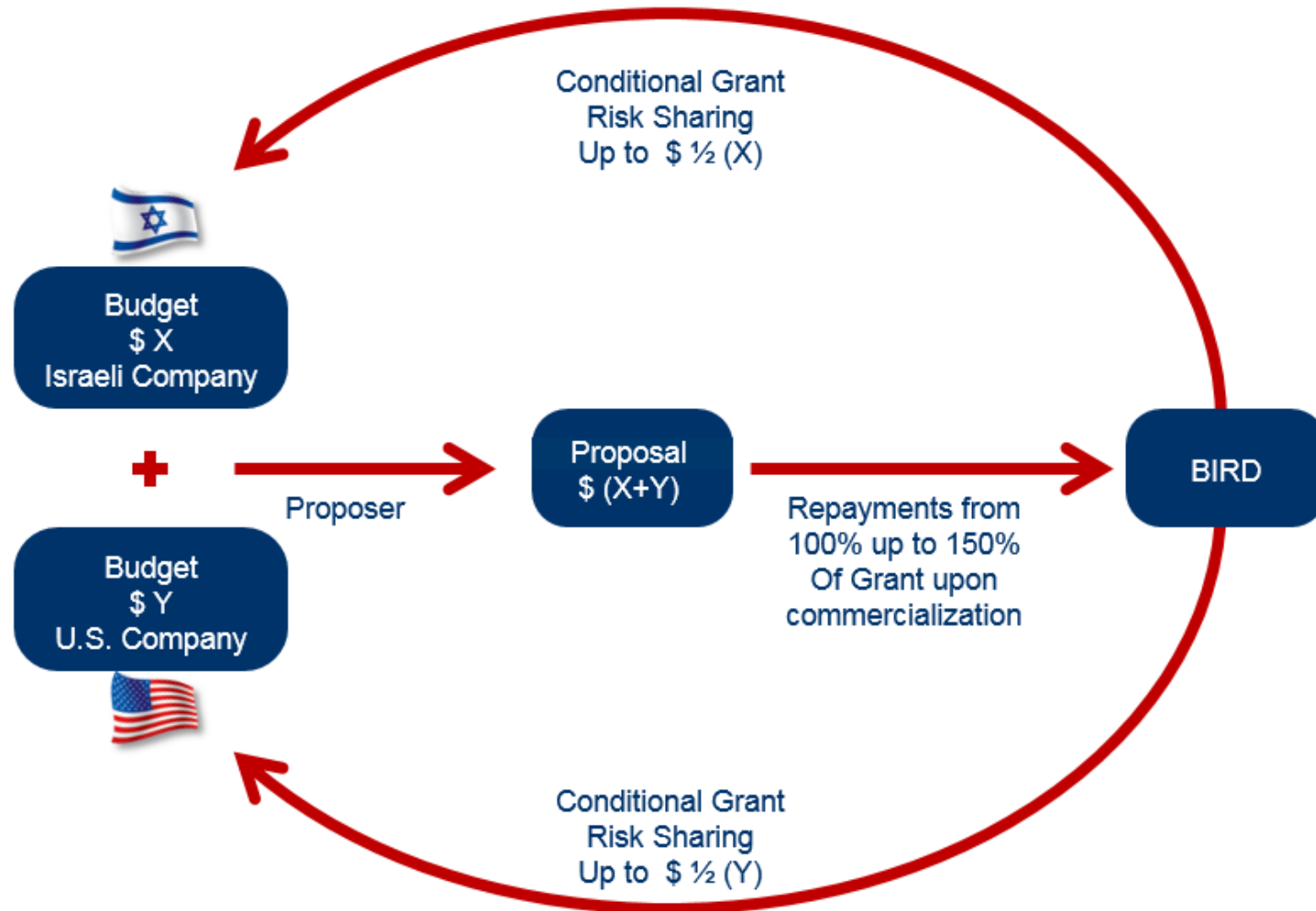
Company-Level Benefits

- | | | | | | |
|----------|----------------------|----------|----------------------------|----------|---------------------------------|
| 1 | 'Risk Sharing' Grant | 2 | Improved Partnerships | 3 | Access to Innovative Technology |
| 4 | 'Stamp of Approval' | 5 | Improved Core Capabilities | 6 | Better Access to Markets |

National-Level Benefits

- | | | | | | | | |
|----------|---|----------|--|----------|---|-----------|--------------------------------------|
| 7 | Promoting Relations between U.S. & IL Companies | 8 | Strengthening Government R&D Collaboration | 9 | Channeling R&D Investments into U.S.-IL | 10 | Economic Benefits Sales, Jobs, Funds |
|----------|---|----------|--|----------|---|-----------|--------------------------------------|

The BIRD Model



- The BIRD Foundation offers conditional grants on a risk-sharing basis
- The Foundation funds up to **50%** of each company's R&D expenses associated with the project
- Maximum conditional grant= **\$1M***
- **Every dollar invested by the governments yields at least \$2 of activity through private sector cost-sharing**

*For the main BIRD program, the BIRD Board of Governors may exercise its discretion to increase the award up to \$1.5M for exceptional proposals (contingent on the quality of the proposal and available funding)



ACCELERATING GROWTH THROUGH U.S. - ISRAEL STRATEGIC PARTNERSHIPS

BIRD Foundation Call for Proposals

To be considered, a project proposal should include:

- R&D cooperation between two, unrelated companies, one registered in the U.S. and the other in Israel. The companies should jointly apply for BIRD support
- Research and development topics that include but are not limited to: Advanced Manufacturing, Agrotechnology, Cleantech and Environment, Communications, Construction Tech, Electronics, FinTech, Gas, Homeland Security and Cyber Security, Life Sciences and Bio-Convergence, Software, etc.
- A jointly developed technology or product(s) that shows considerable innovation
- A proposed project that demonstrates significant commercial potential

BIRD funds up to 50% of the R&D costs associated with the joint project.

The maximum conditional grant per project is up to US \$1 million; the BIRD Board of Governors may exercise its discretion to increase the award up to US \$1.5 million for exceptional proposals*

*contingent on the quality of the proposal and available funding.

Timetable & Deadlines

Executive Summary

March 1, 2022

Final Proposal

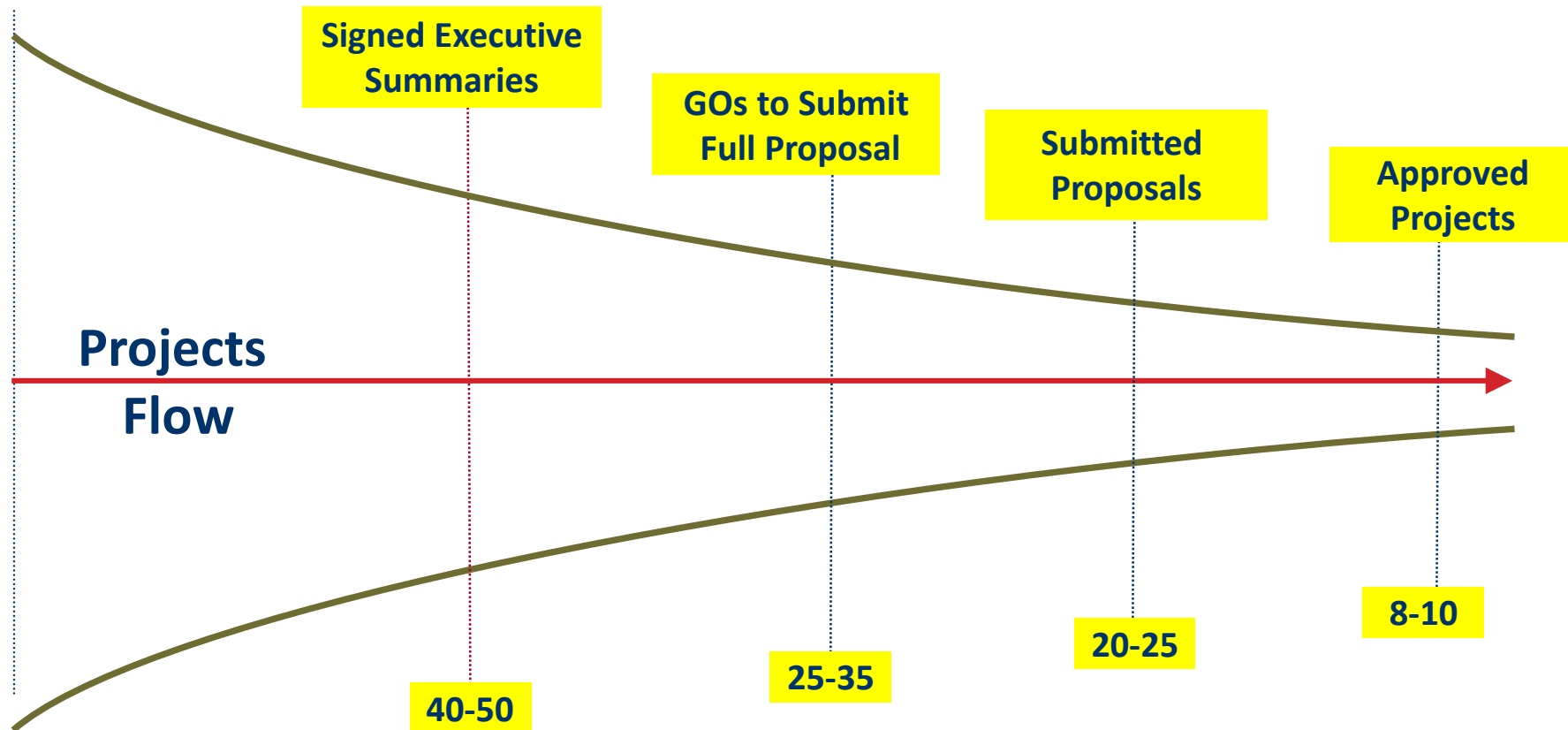
April 13, 2022

Decisions

June 2022

*For the main BIRD program, the BIRD Board of Governors may exercise its discretion to increase the award up to \$1.5M for exceptional proposals (contingent on the quality of the proposal and available funding)

BIRD's Funnel (Average)





- Innovation (Technology)
- Synergy between companies
- Market opportunity
- Go to market strategy / commercialization



BIRD Energy – Since 2009



“BIRD Energy” is the implementation of a cooperation agreement between The U.S. Department of Energy (DOE), the Israel Ministry of Energy, jointly with the Israel Innovation Authority and the BIRD Foundation. This program develops innovation through U.S.- Israel cooperation on a range of clean energy technologies, including renewable energy, energy efficiency, natural gas, and energy-water technologies.

BIRD HLS – Since 2016



The BIRD Homeland Security (HLS) program is a joint initiative funded by the U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T) and the Israel Ministry of Public Security (MOPS) to develop advanced technologies for the homeland security mission. The BIRD HLS program seeks solutions in first responder technology areas such as perimeter protection, wearable technology, situational awareness and more.

U.S.- Israel Energy Center – Since 2019



The U.S. and Israel, through the U.S. Department of Energy (DOE), the Israel Ministry of Energy (MoE) and the Israel Innovation Authority (IIA), have established the U.S.-Israel Center of Excellence in Energy, Engineering and Water Technology (the “Energy Center”). The purpose of the Energy Center is to accelerate development and deployment of critical and innovative technologies in the areas of Fossil Fuels, Energy Storage, Cyber Security for Energy Infrastructure, Energy-Water Nexus.

UISEC: US Israel Solid Energy Center



The Energy Storage Consortium of the U.S.-Israel Energy Center

Program title: Lithium and Sodium Metal Solid State Batteries for Advanced Energy Storage Applications

The Energy Cyber Consortium of the U.S.-Israel Energy Center

ICRDE: The Israel-U.S. Initiative on Cybersecurity Research and Development for Energy



Use Case Development

Utility Partners



Energy Infrastructure



National Security



Advisory Board



Data Provider (Real + Simulation + Lab)



Data Analytics & Security Platform



Research



Software



Hardware



BIRD Energy - Storage



Brenmiller Energy developed a high temperature thermal storage technology based on solid state material (crushed rocks) which is charged electrically or thermally and delivers steam or hot air on demand.



New York Power Authority (NYPA) is a New York State public-benefit corporation. It is the largest state public power utility in the United States. NYPA provides some of the lowest-cost electricity in the nation, operating 16 generating facilities.

Project title: High Temperature Storage Based CHP System



bGen™ Energy storage CHP based system

PR: <https://nypa.gov/news/press-releases/2017/20171215-thermal>

Joint development product: to develop and test the use of thermal energy storage with combined heat and power (CHP), aimed to increase system energy efficiency and reduce greenhouse gas emissions.



Manam Applications develops leading software solutions for managing transportation infrastructure projects. Provides solutions and services to various aspects of Civil Engineering, such as RBMS- Road and Bridge management systems, Field surveys and Quality Control Management Systems



Avisight is a leader in unmanned industrial inspections and advanced data solutions for critical infrastructure owners. Provides drone operations and data production for the oil & gas, power and transportation markets

Project title: Unmanned bridge survey and remote diagnostic



UAV Bridge Inspection & 3D Studio Defect Analysis

Joint development product: technology for unmanned aerial systems bridge survey and remote analysis.

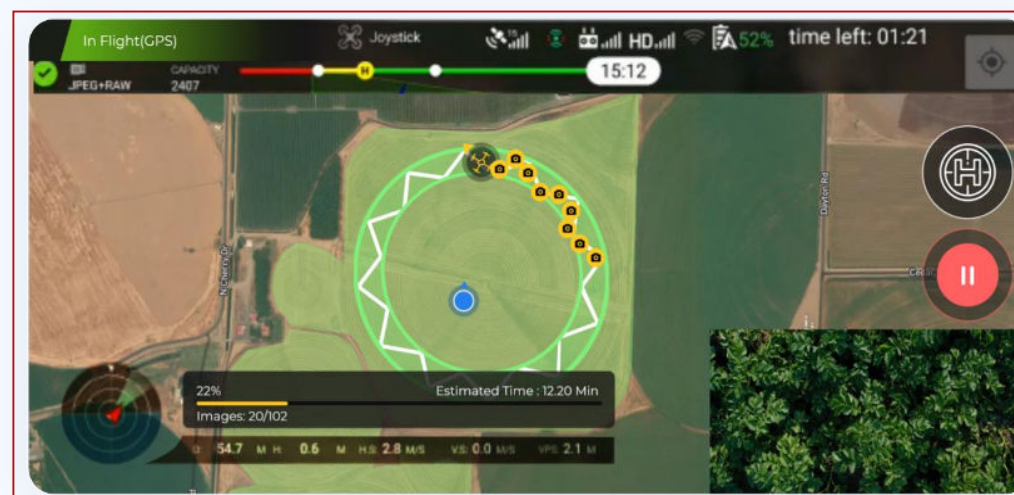


AgroScout developed an autonomous scouting system that uses deep learning algorithms based on artificial intelligence to allow quick, efficient detection, identification and monitoring of crop diseases throughout the entire field.



Birdstop automates inspection and monitoring for industries with remote physical assets. Using a remote sensing platform of ground nodes and UAVs, Birdstop reduces the need of personnel in the field.

Project title: Saturn - Automated Agronomic Intelligence



Mark the specific field or selected area you want to scout and then dispatch the drone for autonomous data collection

Joint development product: Saturn takes ordinary off-the-shelf drones and turns them into autonomous grid of field scouts. The innovative system launches the drone from a permanently field deployed docking station to perform various agronomic tasks, and implement intensive pests management protocol.

MR guided focused ultrasound Non-Invasive Brain Surgery



Development of PEG-Uricase for treatment of Intractable Gout and related conditions



Bio-Technology General

Motorized Exoskeleton suit that enables patients with lower limb disabilities, including complete paralysis, to independently engage in ambulatory activities



Why BIRD?



- Funding the joint development of advanced technologies
- Risk sharing mechanism
- “Stamp of Approval” – Review of the project is done by external organizations
- Commitment that accelerates delivery and time to market

<https://projectsdb.birdf.com>





U.S.- Israel R&D Center for Climate Solutions

*A Proposal to Enhance U.S.-Israel Collaboration in Climate Change Related Technologies
A joint BSF-BARD-BIRD Proposal*

Thank you!



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