



# Creating Innovative Solar Energy Solutions OCS Magnet Consortium



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# Outline

- **SES - Who are we?**
- **SES partners**
- **SES vision**
- **SES work structure**
- **Si based PV solar cells**
- **BIPV**
- **Dye Sensitized Solar Cells**
- **High-Temp. solar thermal**
- **Summary**

# SES - Solar Energy Solutions

- SES is a government-backed initiative that gives Israeli industry the opportunity to capitalize on innovation and penetrate the solar energy market.
- SES is a consortium of Israeli companies and academic research groups acting under the MAGNET framework of the office of the chief scientist in Israeli Ministry of Industry, Trade and Labor.



# SES partners

8 companies



4 academic institutions including includes 10 groups

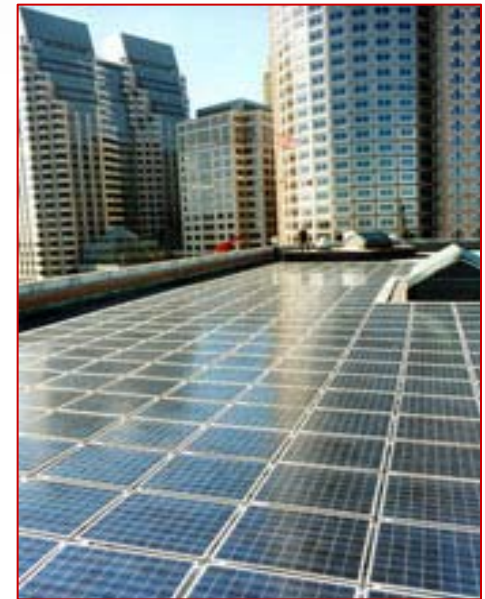


# SES's vision

**SES's vision is to develop new technologies to convert solar energy into electricity with higher efficiency and lower cost of production than current methods offer**

# SES three working groups

- Si based PV
- DSSC
- Thermo solar



# Si based PV – working group

- Creating special Si based PV solar cells
- Combining these cells into LCPV
- Creating low cost LCPV panels in cooperation with industrial and academic groups
- Improving efficiency by generic R&D methods, improved metallization & low cost materials as well as reaching low amount of Si/watt

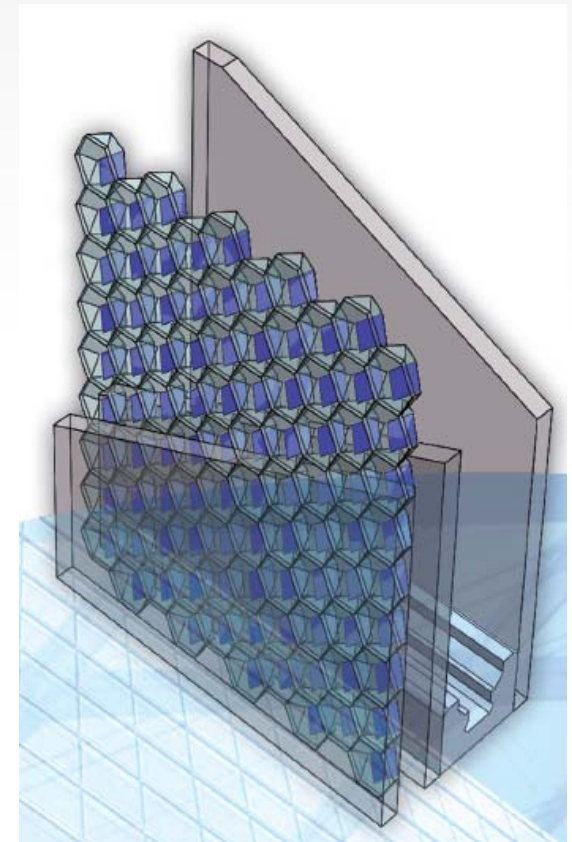
# Dye Sensitized Solar Cells

- 3GSolar together with academic groups leads DSSC innovation, achieving large area cells.
- High level academic involvement under Bar Ilan leadership
  - Improve efficiency
  - Lower costs



# BIPV

- Two companies collaborate on polycarbonate low concentrators.
- SolarOR targeting curtain walls
  - Prismatic concentrator
- Paltouv targeting the  
Prismatic concentrator  
made of polycarbonate



# High-Temp. thermo solar

- Two companies, BrightSource Industries and Ricor Solar are working at high temperature ( $\sim 700\text{ }^{\circ}\text{C}$ ) to get benefit of higher thermodynamic efficiencies.



- Materials issues for high absorptive coatings are quite challenging at such temperatures.
- Solutions are worked out with Acktar and academic teams from Technion and HUJI.

# Summary

- SES is an umbrella consortium gathering a wide spectrum of R&D activity which is done by academic & industrial groups related to solar electricity.
- The consortium is open for applications by new companies. Currently, there is a window of opportunity for innovative companies to join SES for the next two years, with an optional two-year extension.
- The proper framework for collaboration should be a company which does generic R&D of innovative technology that is included in the consortium topics and that can open up a new niche in the solar market.