

# New Energy Oasis (NEO)

جامعة الملك عبد الله  
للعلوم والتقنية  
King Abdullah University of  
Science and Technology

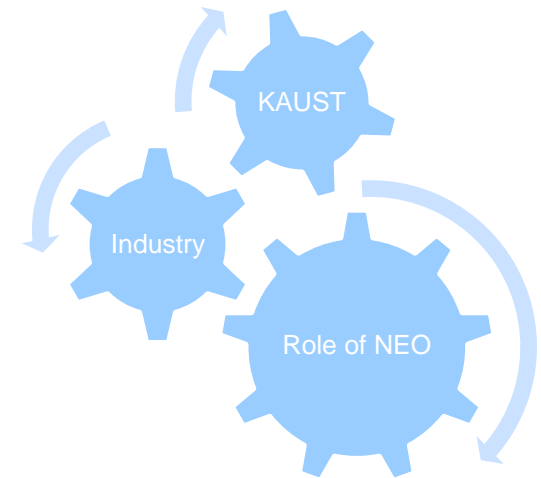


كاوست  
KAUST

# New Energy Oasis at KAUST



- NEO is 14,500 m<sup>2</sup> land adjacent to the Innovation Cluster
- An outdoor testing and demonstration area for solar technology
- A platform for introducing new solar technology to KSA



# New Energy Oasis (NEO)



## Testing

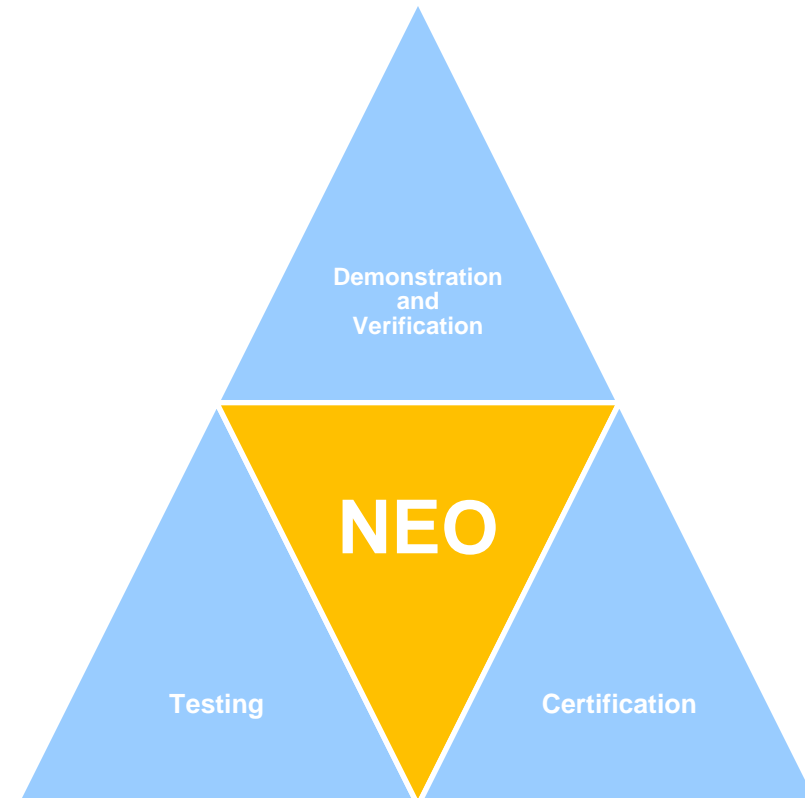
Prove your products suitability for the market and environment in Saudi Arabia

## Demonstration and Verification

Promote your new innovative product in Saudi Arabia

## Certification

Get certified for operation in Saudi Arabia, and get Performance verification



# Solar technology demonstration and verification



- Provide demonstration sites for technology companies
- Up to 20 locations can be provided
- Initial tenants have a free of charge 3 year contract
- As of January 1<sup>st</sup> a one year free usage agreement to be given
- As of June 1<sup>st</sup> 2011 a monthly charge is to be applied to all new tenants or renewed contracts

# Solar technology demonstration and verification



Company	Technology	System rating (kw)	Number of panels	Date on line
Solar Frontier	CIS	10	128	January, 2010
Suntrough	CSP	Demo installation		September, 2009
Sulfur Cell	CIGS	1.2	21	March, 2010
BP Solar	Poly-crystalline	14	60	July, 2010
KANEKA	Amorphous silicon	10	132	November, 2010
Circadian Solar	CPV	7		
Q-cells	Poly-crystalline	6	24	December, 2010



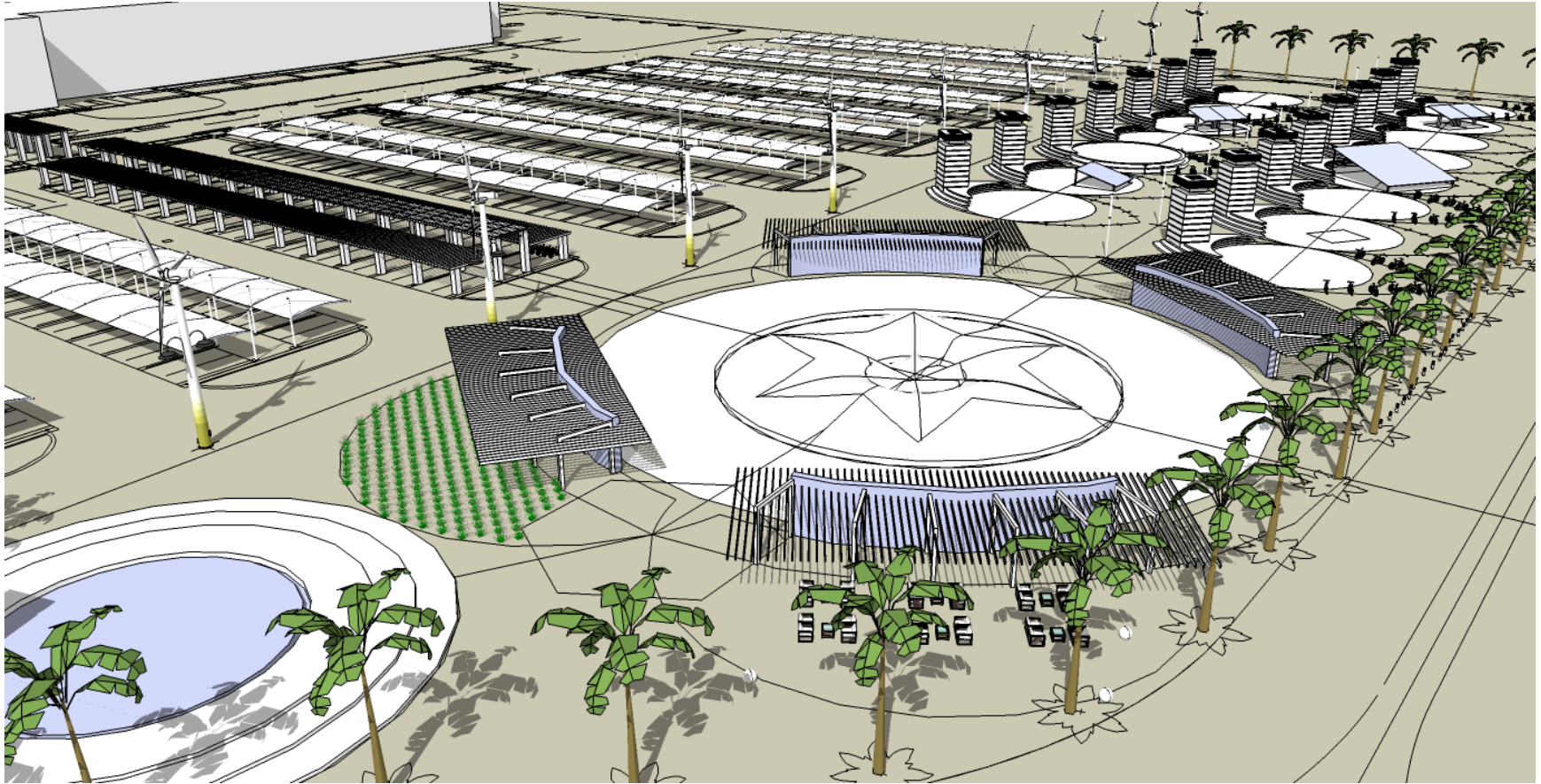
# In discussion to join the demonstration and verification track



- MiaSole
- Solar Systems
- SolFocus
- First Solar
- Nex Power
- Hevel
- Dido



# NEO Development Plan (3D Shots)



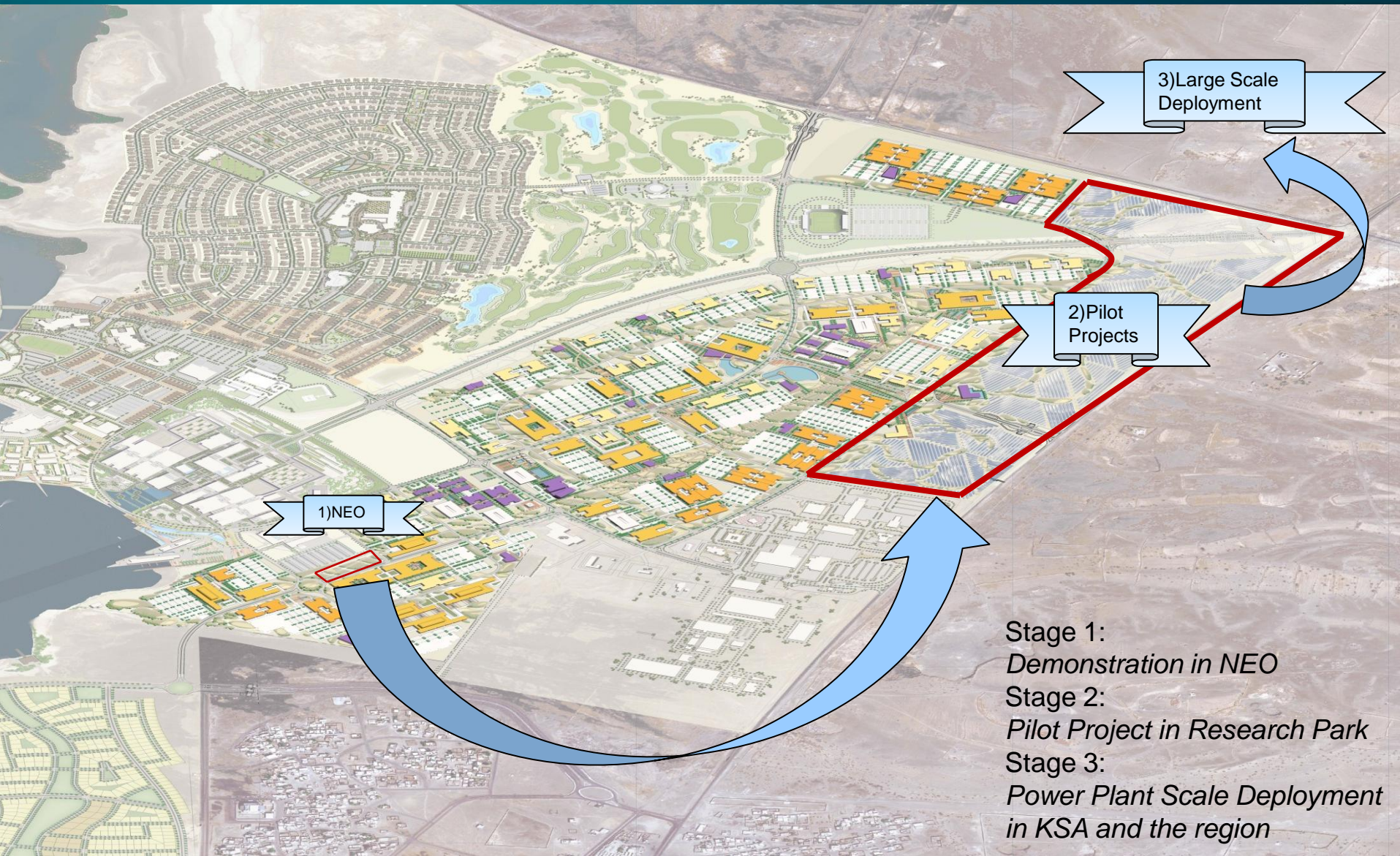
# Solar PV module testing and benchmarking



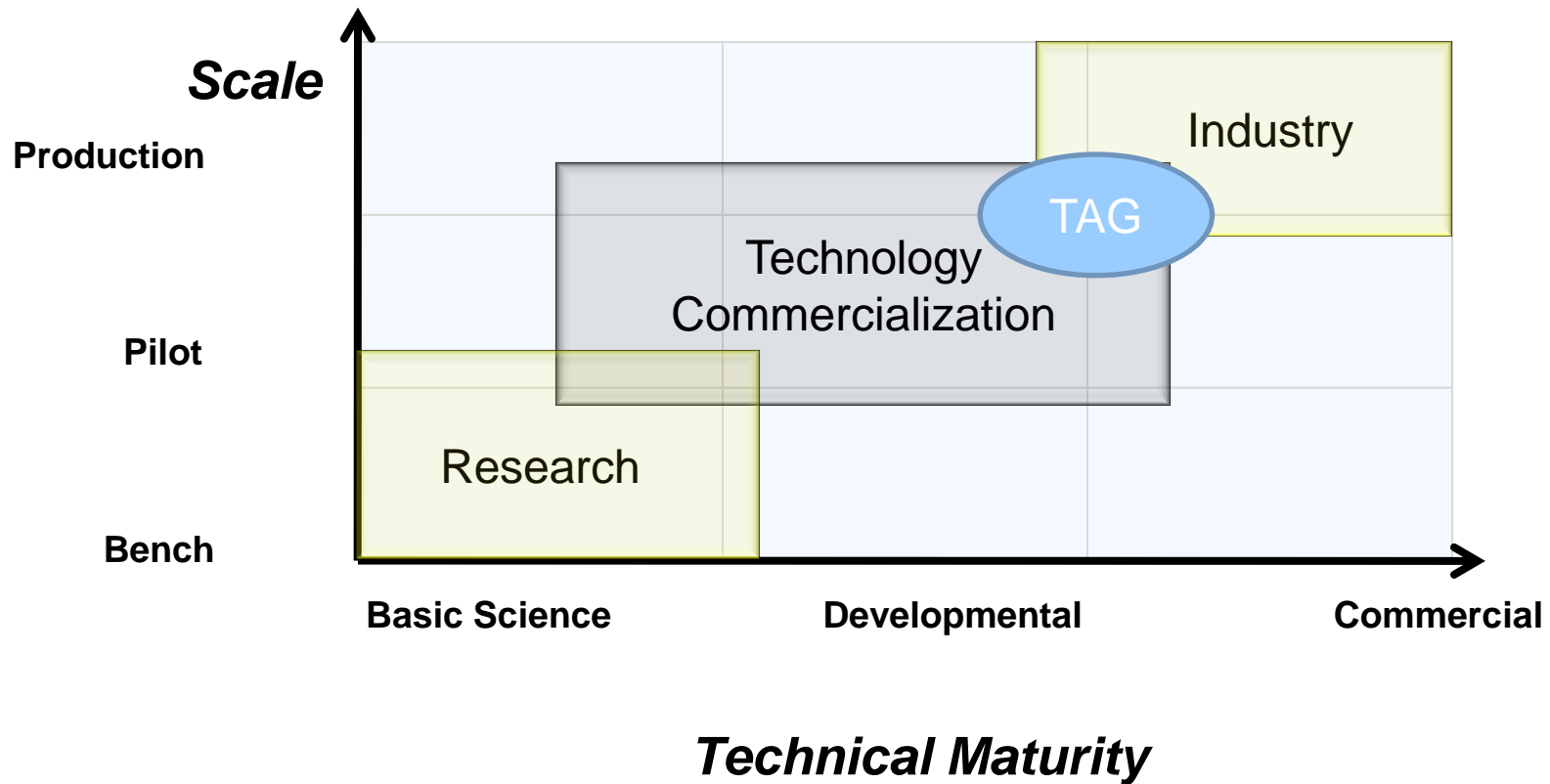
- Install a testing platform for PV modules
- Test platform will have functional capability to carry out standardized outdoor testing as well development research capability
- Test plan duration and charges will vary based on scope and duration
- Test platform will be able to incorporate up to 15 companies
- Saudi Aramco is building a testing platform in eastern province
- KA-CARE is interested in working with KAUST on PV testing
- KA-CARE interest in developing testing capability leading into solar certification for Saudi Arabia



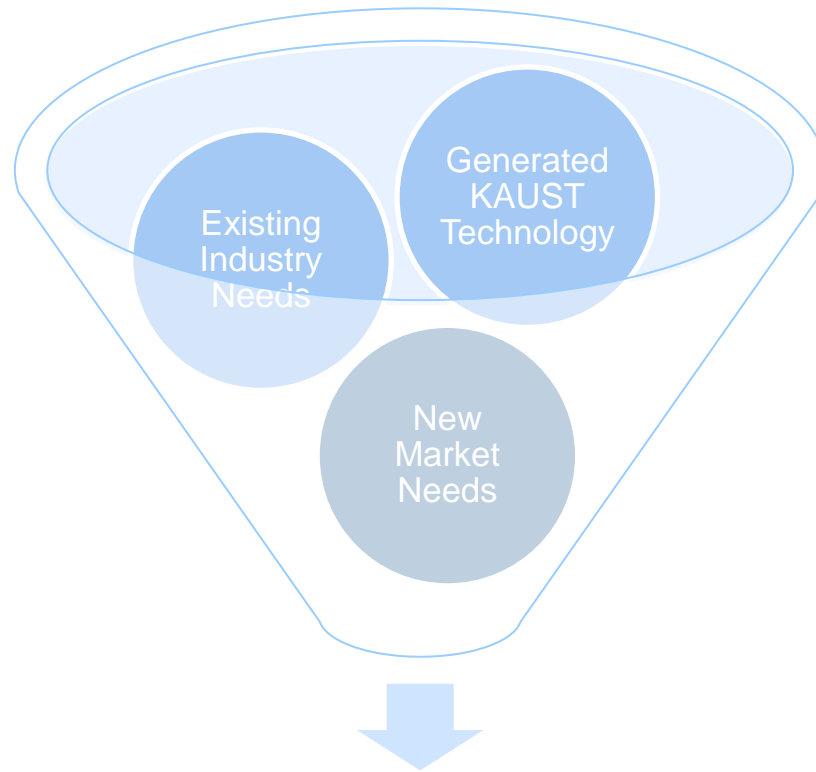
# NEO: Staging Platform for Market Entry



# TAG: Later stage in Technology Commercialization



# Source of Project Ideas for TAG



**Pilot Project List**

..... Plus on-going TAG Initiatives



# Example: Next Generation Utility Scale PV Power Plant



The PV pilot project would consider advanced system engineering and integration starting with the PV module:

- Coating material for dust and sand minimization as well as light spectrum optimization
- Integrated, automatic and dry type cleaning tools
- Advanced MPP at module level. Micro dc-dc or dc-ac
- High efficiency Grid interface; DC bus distribution and MV converter utilization
- Energy storage, integration with PV power plant
- Optimized mounting scheme and structure

*Proposed 5% of project budget be assigned for applied research targeted at the above mentioned topics*

# Thank you

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