Quantum Energy and Sustainable Solar Technology

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IP Strategies
Leonardo da Vinci

Engineer and scientist

Completed 7 paintings in this lifetime

Mona Lisa – most famous

Last Supper – number 3

Smartest person in history (opinion)

Estimated IQ of 220 – Einstein 160
War Inventions

Armored tank - 400 years ahead of its time

Worked for the Duke of Milan
Mechanical Inventions

First self propelled vehicle
Developed by Karl Benz
(Mercedes-Benz)
400 years later

First known scuba gear
not invented till 1940s
Inventions of Flight

Helicopter – drawn 450 years ahead of its time

Parachute – 300 years before the first known jump
Predicted Solar Industrial Revolution

First known drawings of solar systems

Existence of PV noted in 1914

Einstein received Noble Prize for explaining the theory of photovoltaics.

420 years later
Help address the Terawatt Challenge

Richard Smalley – 1996 Nobel Prize Winner

“Find enough clean energy to raise the living standards of people around the globe”

1.5 Billion people in the dark (21%)
QESST - Consortium of 8 universities

Lead University
Silicon Nanostructures Power conditioning

Nitride growth Indium gallium nitride

Optics

Nanowires photonics

Thin film CIGS

Material defects
Key Components

- Research
- Industry
- Engagement
- Education
- Joint Proposals
- Students
- Partner Universities
- Faculty
- Workshops
- Innovation

Quantum Energy and Sustainable Solar Technologies
Industrial Membership Structure

**Resources**

- PhD and postdoc access
- Graduate student access
- Non-exclusive, royalty free commercial IP rights
- Non-exclusive royalty free IP rights for research purposes
- Training workshops, webinars, seminars
- Access to faculty, students, university lab resources
- Access to pre-publications, presentations, annual report

**Affiliate**

**General**

**Partner**
Industry engagement pathways

- No IP implications
- Laboratory Access
- Non exclusive IP rights
- QESST Membership
- Sponsored Research
- Exclusivity
- Exclusivity or assignment
- IP licensing

Level of engagement, rights vs Investment
Industry engagement pathways

- Laboratory Access
  - Amtech
  - Soitec
  - Nth Degree
  - Natcore
  - Idalia
  - IZAR Solar
  - IQE

- QESST Membership

- Sponsored Research
  - Soitec
  - National Instruments
  - Nth Degree
  - Addventure Support Enterprises
  - BAE
  - Intel
  - Qualcomm
  - Ridgetop
  - Space Micro
  - Texas Instruments
  - First Solar
Industry engagement pathways

- QESST Member
- Sponsored Research
- Partner on grants
- Laboratory Access
- Colocation
- Installed on campus

Soitec
(IP)Value Proposition - Industry

One straight forward agreement provides IP rights to all QESST universities
Industry engagement pathways

No IP implications

Laboratory Access

Non exclusive IP rights

QESST Membership

Exclusivity

Sponsored Research

Exclusivity or assignment

IP licensing

Level of engagement, rights

Investment
Background IP

Improvements to Background IP

Effectively exclusivity
Qualcomm background IP

3. Mobile data transmission

1. Interdigital Corp.
2. Qualcomm Inc.
3. TeraHop Networks Inc.
5. Feher Kamilo
Qualcomm background IP

3. Mobile data transmission

Areas to target
Hybrid Model

- ERC Membership
- Non exclusive IP
- Hire or subcontract
- Exclusive IP
Recap

Level of engagement, rights

Investment

- No IP implications
- Hire/subcontract
- Background IP
- QESST Membership
- Sponsored Research
- Assignment

Exclusivity

Non exclusive IP rights
Questions

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