



NANO WIRE ...

* Nanowire : is a nanostructure with the diameter ranges from 10-100nm. It is two dimensional cylindrical solid material having an aspect ratio i.e., length to width ratio greater than 20.

⇒ Ex: Ni, Pt, SiO₂, TiO₂, DNA etc...

* Properties of Nanowires :

★ Nanowires are two-dimensional material.

★ Silicon nanowires show strong photoluminescence characteristics.

★ It exhibits distinct optical, chemical, thermal and electrical properties due to its large surface area.

* Applications of Nanowires :

⇒ Are used for enhancing mechanical properties of composites.

⇒ Used in high-density data storage either as magnetic head heads or as patterned storage media.

⇒ Nanowires replace conventional copper wires used in computers, televisions.

⇒ Nanowire lasers are used with potential as optical interconnects and optical data communication on chip.

⇒ It is also used for sensing the chemicals.

Q: What makes nanostructured materials (scientifically) interesting?

- **Electronic & optical properties**
 - Nanowires and nanotubes are the most confining electrical conductors - puts the squeeze on electrons
 - Can be defect free - electrons move “ballistically”
 - Quantum confinement - tunable optical properties
- **Mechanical properties**
 - Small enough to be defect-free, thus exhibiting ideal strength
- **Thermal properties**
 - Can be designed to conduct heat substantially better (or much worse) than nearly every bulk material
- **Chemical properties**
 - Dominated by large surface-to-volume ratio

Nanowires and Nanotubes are New Materials!



"INVISIBLE STREETLIGHT"...

* "Invisible Streetlight" by "Jongoh Lee" has been designed to depict the processes of photosynthesis conducted by plants using solar energy.

* By saving energy from sunlight during the day like actual trees, it emits light at night.

* The light's flexible body can be directly wrapped around a tree branch with no support required, blending into the surrounding environment.

* "Invisible streetlight" ~~by~~ can be seen as a light pole, lamppost, street lamp, light standard or a raised source of light on the edge of a road or path.

* Components of a invisible street light are: Solar panel assembly, light controls, fixture mounting bracket, pole etc...

* This can also be known as "arc lamp, candelabrum, candle, chandelier, dark lantern, flare" etc...

* The standard photovoltaic cells are dependent on a battery to store the electrical power converted from light. A photo capacitor is combining photo electric and storage functions in a single unit.



High Efficient Solar Cells

-EFFICIENCY UP TO 22%

LED Light Color Change

- LED COLOR TUBE
- 16 DIFFERENT COLORS
- REMOTE MANAGEMENT

Advanced LED Luminaire

- FROM 25W TO 75W
- DIFFERENT DESIGNS AVIALABLE

REAL TIME DATA

Set of Intelligent Sensors

- LIGHT ON DEMAND SENSOR
- AIR QUALITY SENSOR (NO2, CO)
- TEMPERATURE & HUMIDITY
- VIDEO SURVELANCE & ANALYTIC
- TRAFFIC MONTIORING & COUNTER
- WATER DETECTION



EnGo Charging Spot

- 2 WATERPROOF USB PORTS
- 1 WIRELESS CHARGING PAD



★ Advantages of Invisible street light :

- * It helps to reduce night-time crashes by improving visibility.
- * Helps to aid navigation.
- * It ensures safety and can help to reduce crime.
- * Route lighting can help to reduce glare from vehicle headlights.

★ Disadvantages of Invisible street light :

- * Street lights require higher initial investment.
- * Snow, dust and moisture can accumulate on horizontal PV-panels. This leads to reduced or full stoppage of energy production.
- * Rechargeable batteries must be replaced a few times within the lifetime of the fixtures.
- * Risk of vandalism.

