SEMNNAR PRESENTATION
ON
LEP-TECH

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Introduction

- Commercial use of emerging conductive light emitting polymers (LEPs) is likely to surge as manufacturers of electrical and electronics components demand economical and highly efficient conductive materials.

1. Better quality and high-information content displays.
2. Quick responses, image clarity.
3. Wide operating temperature ranges.
OLED

- Small molecules
- Polymers

- Light Emitting Polymers are special plastic materials that convert electrical power into visible light.
- Polymer need to show fluorescence and to conduct electricity to be a LEP.
OLED: CONSTRUCTION

Light Emitting Polymer Device

Metallic Counter Electrode

Thin Plastic Film of LEP

Transparent Electrode

Substrate

Emitted light

Battery
Materials:

Poly(1,4-phenylene vinylene) (PPV)
Poly(1,4-phenylene) (PPP)
Polyfluorenes (PFO)
Poly(thiophenes)
Methyl viologen dichloride hydrate
Growth opportunities

- Organic-based circuits comprising LEPs are easier to make, especially in large sizes. These circuits will be less sensitive to any impurities during fabrication.

- Reducing cost and lowering consumer price tags, says the analyst.

- LEPs to Enable Cost Savings and Sophistication in Displays
Best thing about it  !!!!

- LEP displays may face intense competition from LCDs with backlights and inorganic LEDs used in portable handheld applications.

- Economical power consumption, better contrast ratio, and increasing readability and resolution.

- Specifically in lap tops and cell phones,

- Provide LEP displays with an edge over the competitors.
MAJOR CONSIDERATIONS

- LEPs also meet the increasing need for ultra-thin and flexible displays. New types of displays can also be made using LEPs by controlling their flexibility and transparency.

- For instance, on windshields and helmets, direct-view, heads-up display containing LEPs may eliminate the need to reflect imagery onto a viewing glass.
KEY FEATURES


2. Also find acceptance over a broad spectrum of commercial applications.

3. Electronics displays, antistatic textiles.
Applications:

- Computer Screens.
- Smaller Mobile phones.
- Can be used other way around to create Organic Solar Cells!!!
Advantages:

- Thin Displays.
- Sharp and Bright Images.
- Low power consumption.
- Wide view angle.
- Any colour and any shape or non-planer shape can be obtained.
Disadvantage

- Power consumption
- UV sensitivity

LEP display showing partial failure

Lep display showing wear
Samples:
Samples:
CONCLUSION

- Using organic light emitting diodes, organic full colour displays may eventually replace LCDs in laptop and even desktop computers.

- Portable and light weight organic displays will soon cover our walls replacing the bulky and power hungry cathode ray tubes.
Thank you!