



Introduction
Plextronics Overview
Fabrication Lines
Tech Needs
Future Plans

Presentation for Micro Nano Tech
Conference 1

May 2011

Introduction

- John Krieg
- Manager of Device Manufacturing and Engineering
- I have been at Plextronics for 4+ years
- I manage the R&D fabrication line at Plextronics
- I went thru the NMT program in 2001
- I was a Teaching Assistant for the program from 2002 till 2003

Plextronics Overview

Key Facts:

- Founded in 2002
- Based in Pittsburgh, PA USA
- Approximately 70 employees
- 190+ individual & pending patents worldwide
- Strategic investors:



Business Model:

Develop and manufacture high-performance inks & leading-edge device technology for printed electronics

Core Capabilities:

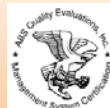
- Conductive polymer design and manufacturing
- Ink formulation, coating, and printing
- Printed device design & engineering

Dedication to Quality

ISO 9001 certified
ISO 14001 compliant



ISO 9001:2008 No. 43632



Target Markets:



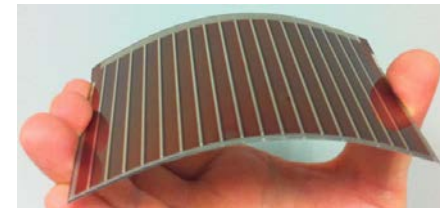
*W-OLED = "White OLED" for lighting applications

Existing Product Lines:

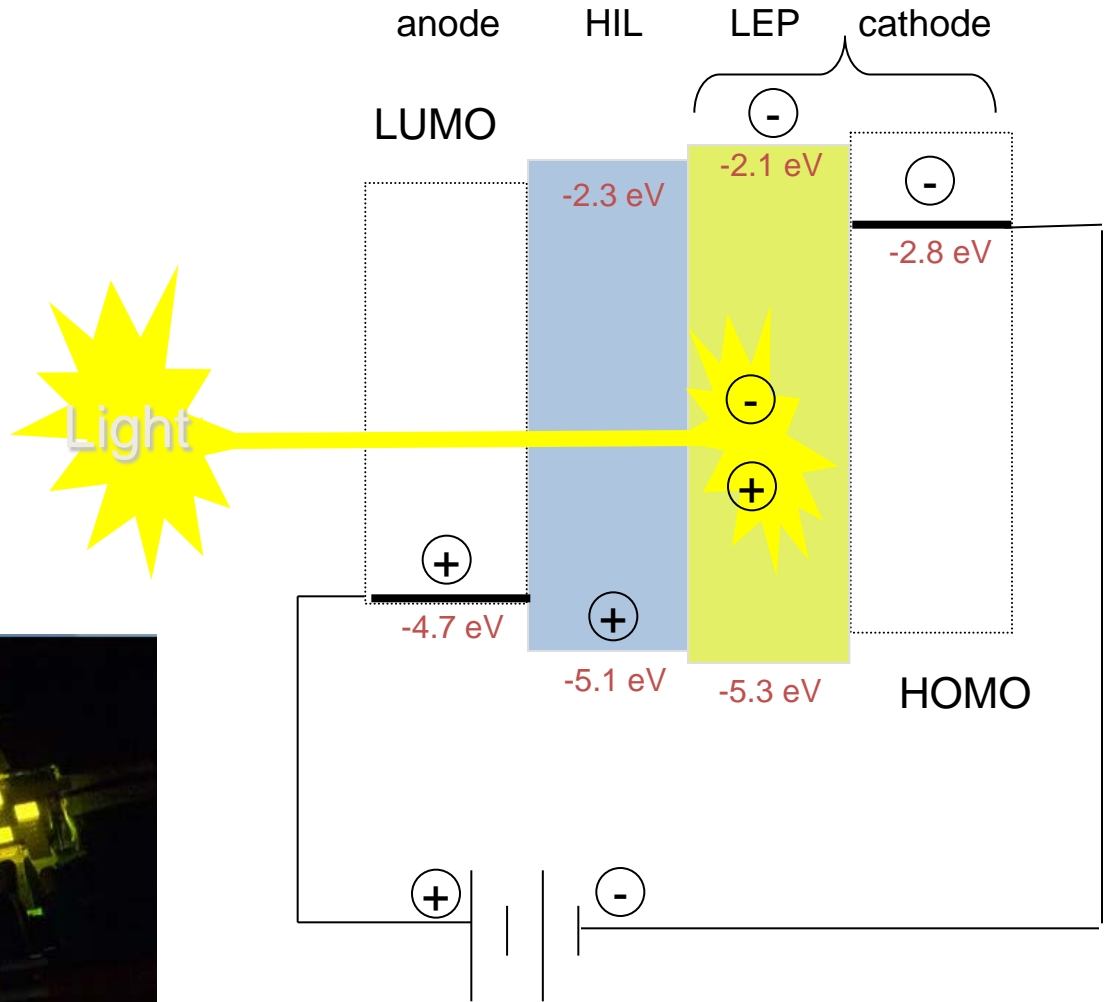
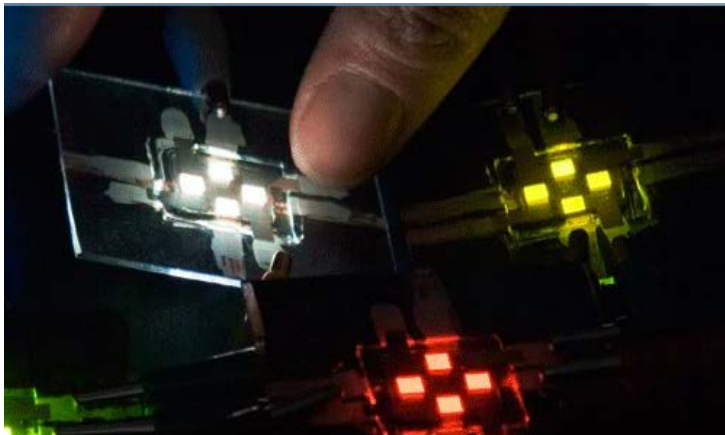
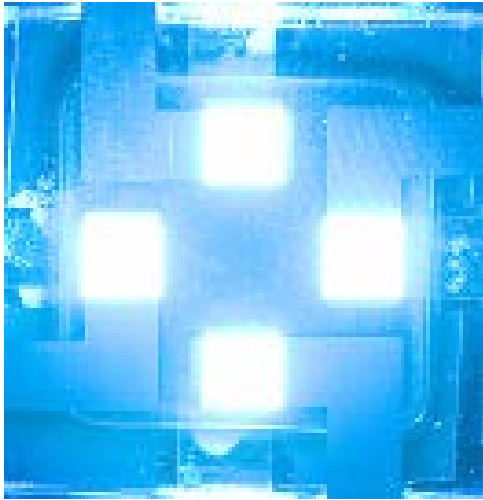
- Plexcore® OC: Conductive polymer inks for Hole Injection Layer (HIL) formation in OLED lighting and displays
- Plexcore® PV: OPV ink systems including matched Photoactive (p/n) and Hole Transport Layer (HTL) materials
- Plexcore® OS: P3HT polymer for OPV and OFETs

New Product Lines:

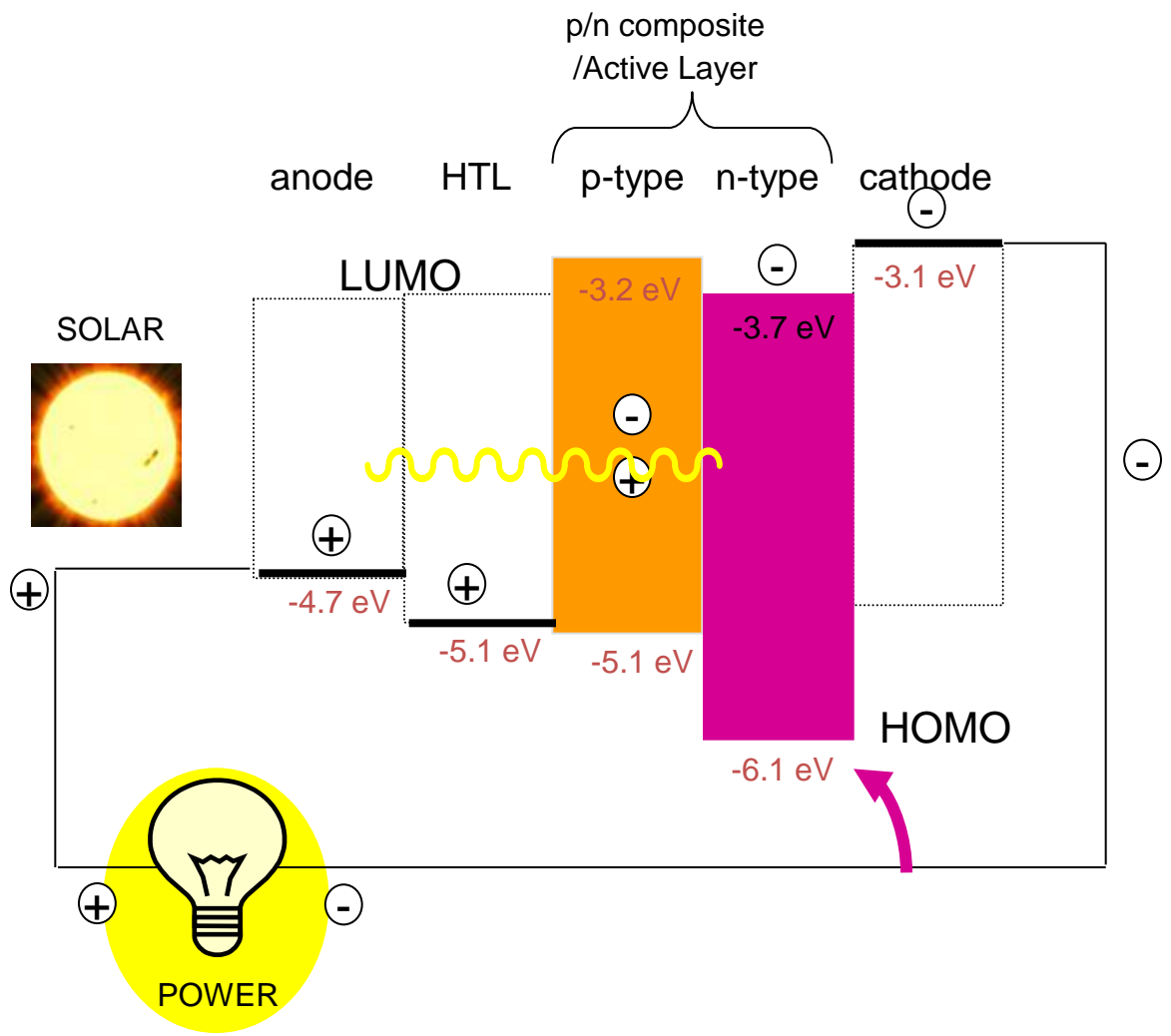
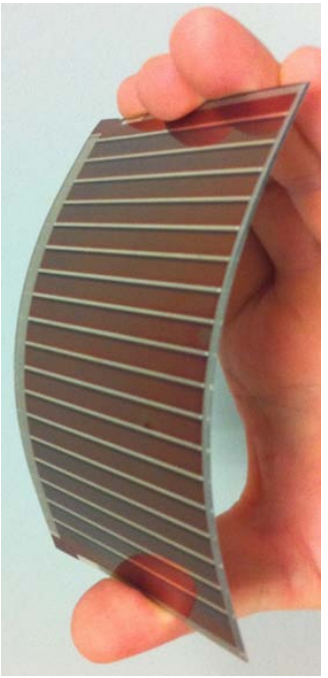
- Plexcore® HIL/HTL: Ink system for printed OLED lighting and displays
- OPV Device Licensing: Printed solar devices incorporating Plexcore® PV inks specially designed for use with indoor, artificial lighting



OLED – Organic Light Emitting Diode

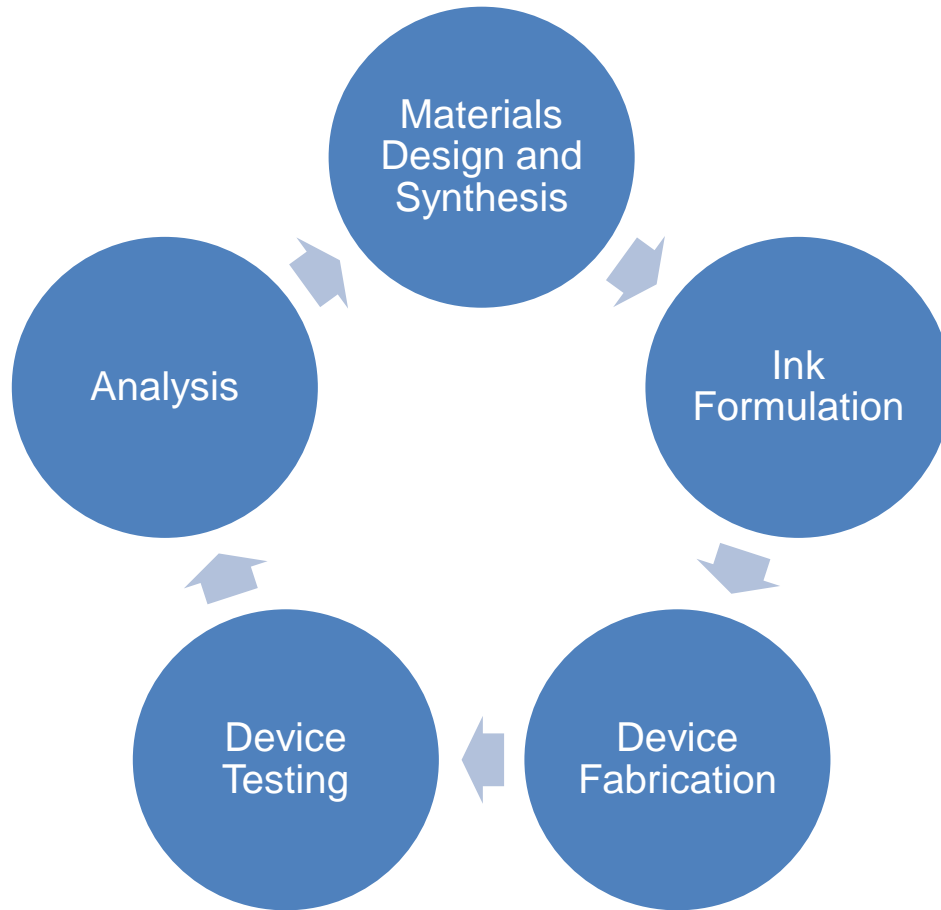


OPV – Organic Photo Voltaic

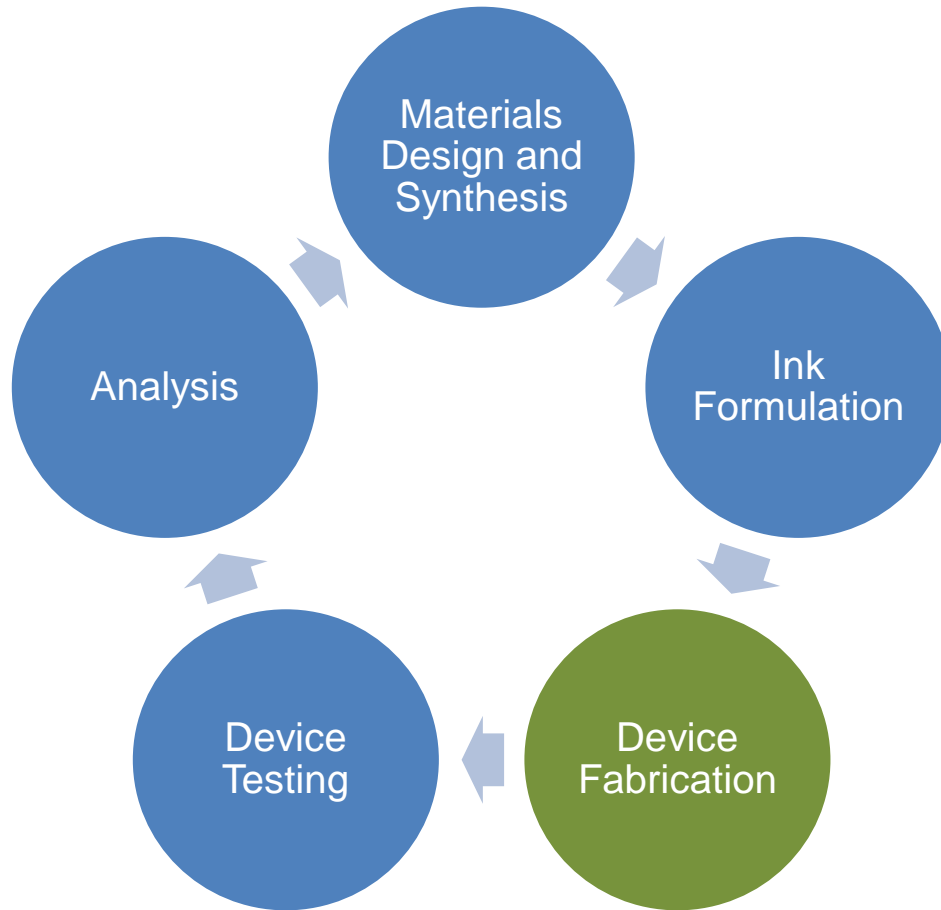


Plextronics Work Flow

- Plextronics Research and Development process follows this basic flow



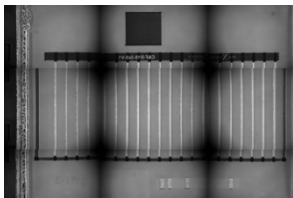
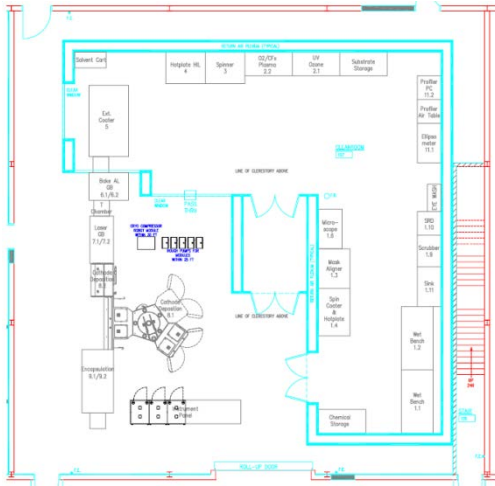
Plextronics Work Flow



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- I manage the Device Fabrication step
- We have 2 main fabrication lines that we make devices on

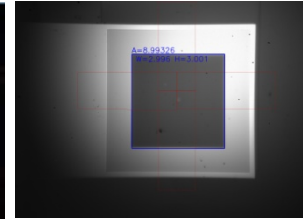
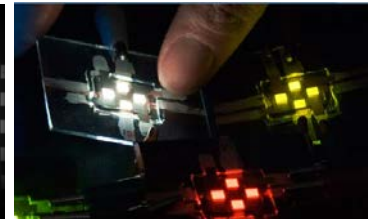
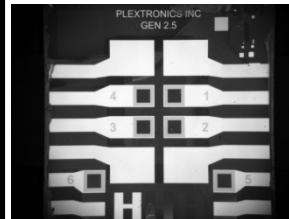
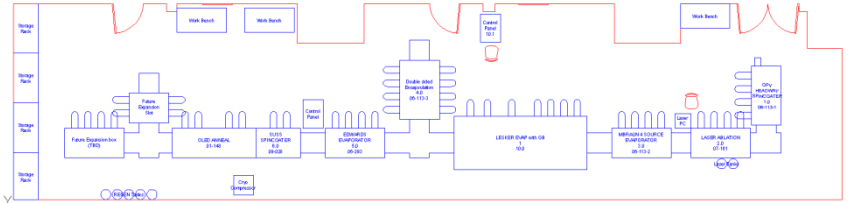
Fabrication Lines

D-Line



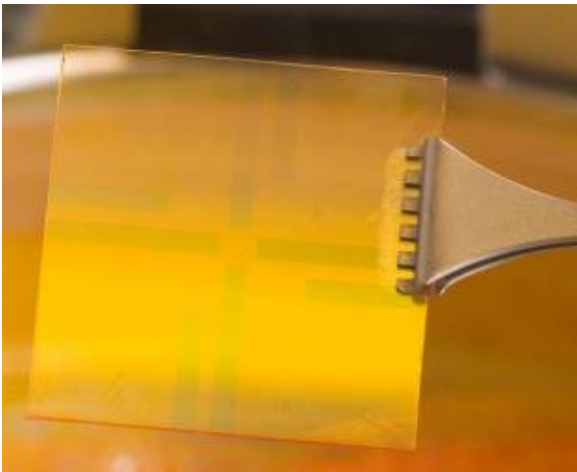
- 6" x 6" Rigid Process
 - BDB Flexible process
- Modules with multiple cells
- Process Development

R&D-Line



- 2" x 2" Rigid Process
- Single Cells
- Ink screening

Technician skill set



- Clean room experience
- Thin film deposition
- Photolithography
- Spin Coating and other coating techniques
- Characterization and data analysis
- Communication and attention to detail
- Equipment maintenance and trouble shooting
- General hands on experience and Lab educate

Future Hiring

- We have hired NMT students in the past and we plan too in the future
- We currently have 7 Technician in my group operating on one staggered shift
- Of the 7 Techs, 4 went thru the NMT program
- I foresee us adding in the next year a second shift on the R&D line to keep up with demand



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Thank You

