



**Partnering to Enable Wearable Technologies**  
San Francisco, 2013

# Enabling Technologies

flexible batteries microbattery  
 energy harvesting coincell  
 battery cell **Energy** thermoelectrics  
 inductive loading piezoelectric fuel cell kinetic recovery organic electric  
 magnetic loading organic / printable  
 photovoltaic

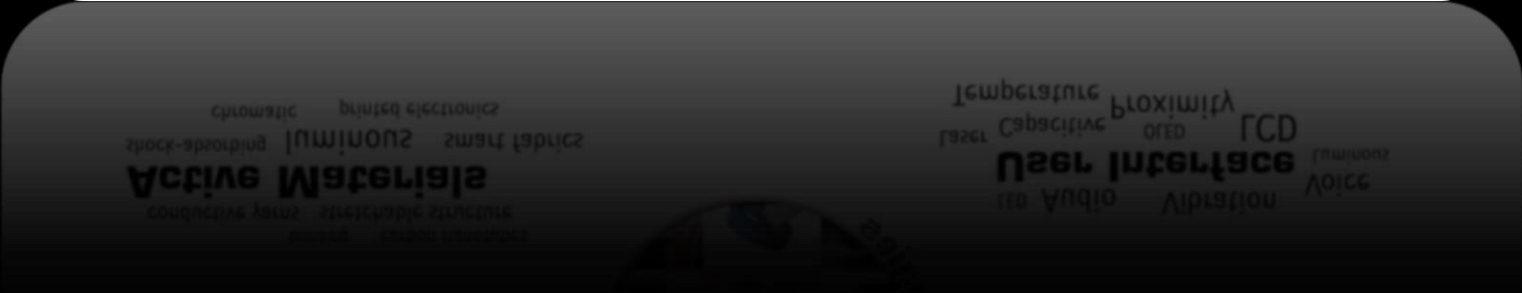
bluetooth ANT+ Aerials  
 Intra-Body PAN UMTS encryption RFID  
 UWB **Connectivity** infrared  
 satellite communication WiFi zigbee  
 GPRS BAN Z-Wave CDMA  
 wibree LTE TerraHerz



body condition laser glucose gyro  
 chemical ECG GPS hydration UV motion  
 proximity gradient **Sensors** capacitive  
 accelerometer magneticfield pressure  
 radiation temperature adaptive piezo  
 optical humidity gas  
 EEG

bonding carbon nanotubes  
 conductive yarns stretchable structure  
**Active Materials**  
 shock-absorbing luminous smart fabrics  
 chromatic printed electronics

LED Audio Vibration Voice  
**User Interface** Luminous  
 Laser Capacitive OLED LCD  
 Temperature Proximity



# Flextronics Enabling Services

integration chipsets  
 Lighting tooling & fixtures FMEA  
 antennas Power TEST labs  
 Certification MGMT **Design &** test equipment  
 RF **Qualification** FEA  
 Proj. Mgmt thermal  
 ID **DFx Support** Partnerships  
 audio UX firmware  
 ENVIRONMENTAL Mcad/Ecad

CONTROL PLANS technology characterization  
 Rapid prototyping Failure analysis  
 PFMEA **Prototyping &** VALUE ENGINEERING  
**Onboarding** global launch  
 tool & process qualification DFX TOOLS  
 APQP ACCELERATOR program mgmt.

Roll to roll laminates  
 consumer wireless ENERGY Power  
 interconnects **Product** Connectivity  
 military **Technology** sensors  
 Automotive Infrastructure FLEX CIRCUITS  
 Rigid circuits medical electronics



Factory Test Deposition Coatings  
 ELECTRONICS ENCAPSULATION Laminating  
 customization **Process** joining & assembly  
 circuit assembly **Technology** Mg Casting  
 stamping  
 Automation Injection molding  
 ADVANCED PACKAGING cnc machining  
 Data Management Finishing

VMI  
 Forward/Reverse asset recovery  
 hubbing **Logistics** Service Part Mgmt.  
 Personalization Fulfillment  
 ANALYTICS CONTROL TOWER Simulation  
 supply chain consulting  
 Postponement

APQP ACCELERATOR program mgmt.  
**Prototyping &**  
**Onboarding**

ANALYTICS CONTROL TOWER Simulation  
**Logistics**  
**& Repair**

Why is it critical to partner with a  
**GLOBAL SUPPLY  
SERVICES**  
company?

- New component technologies
- Low yield at introduction
- High capital \$'s per mfg. line
- ~\$1500 - \$3500 consumer launch price

Late 90's

**E**lectronics

**M**anufacturing **S**ervices

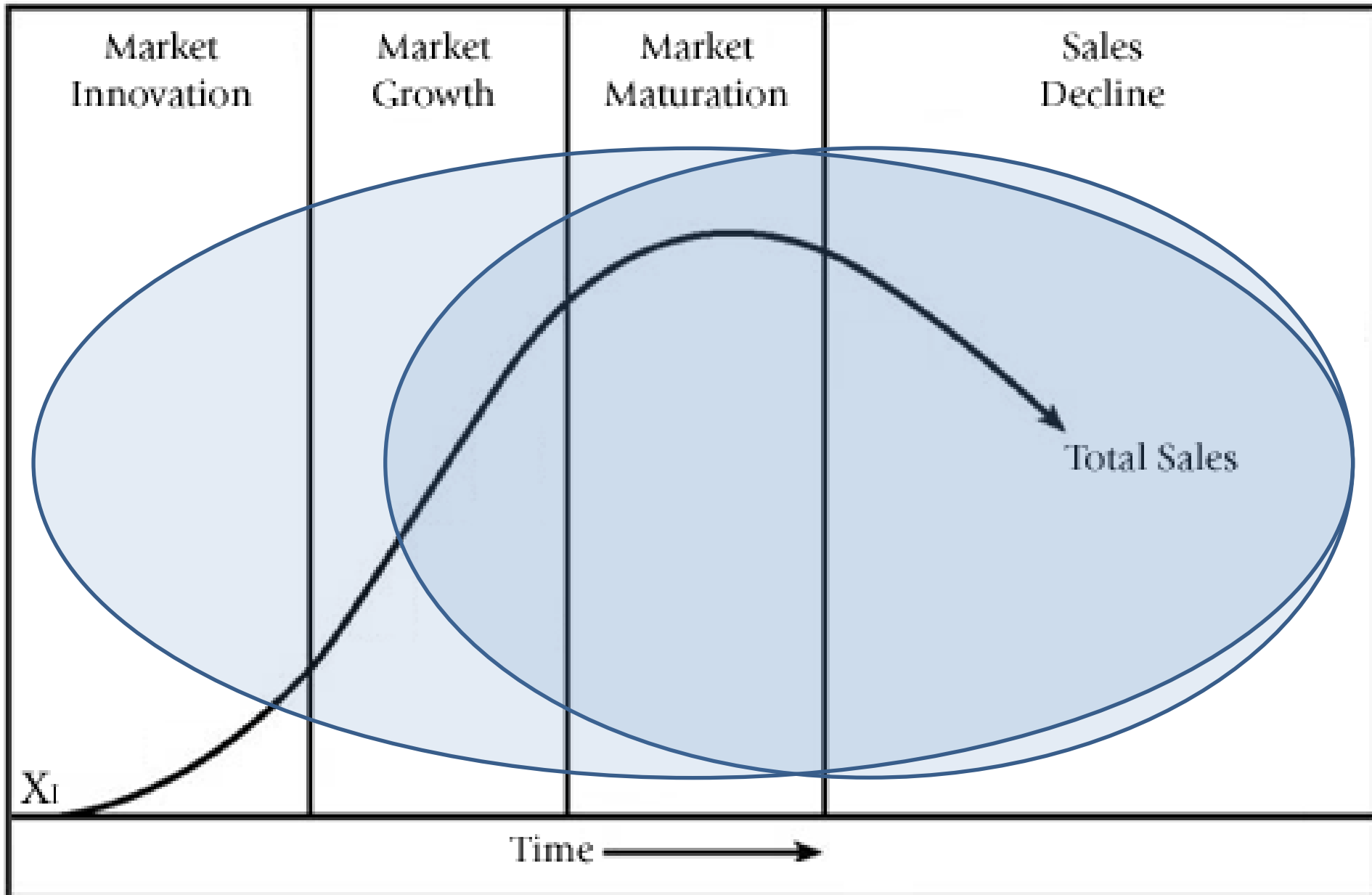
begin to evolve



*“How can you help me create a unique product every week that can be auctioned from my website & available to anyone in the world overnight – Figuring that out is why I am investing in the future of **EMS** because that is what our customers will be expecting in the future.” Customer Request, 2013*



# Personal Consumer Electronics



# Personal Consumer Electronics

1990'S – 2000'S



- standardized packages
- limited connectivity
- traditional supply channels
- BOM cost focus
- Low cost labor

2010's & beyond



- custom products
- internet of things
- design for individual
- rapid development
- regionalization



# Enabling the “Internet of Things”

## Connected Media



## Connected Business



## Connected Home

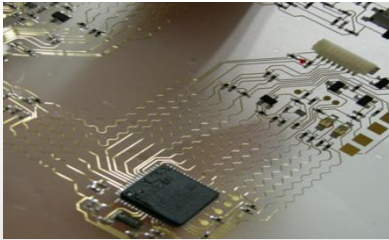


## Connected Person

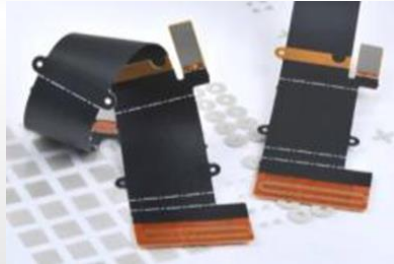


# DFx Workshop Stations

Advanced Engineering



Multek Circuits



Product Innovation Centers



Lab IX



Consumer Electronics



Medical Technologies



# Supply Services Partnership

- Trust & Competency
- Regional Development / Global Deployment
- Passionate About Your Success

**FLEXTRONICS** 

Thank You