Successful Entrepreneurship for Microsystems

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HW 1 Student Presentations
Semiconductors are everywhere - … IC for Electronics driven systems meeting society’s needs

(Source: C. Claeys, IMEC)
The Electronics System Industry

- M&E: Materials & Equipment (~$ 80B)
- SEMI: Semiconductors (~$ 300B)
- ELECTRONICS: (~$ 1,500B)
- SYSTEMS: Auto, Computing, Comms, Industrial, ... (~$ 30,000B)
Automotive Semiconductor content increasing

- Driver Information Systems
  - Infotainment
  - Telematics

- Safety
  - Airbags
  - Electronic Stability Program
  - Collision avoidance and adaptive cruise control

- Body Electronics
  - Body control module
  - Seat, door and window control
  - Remote control
  - HVAC control
  - Lighting control

- Automotive Networking/Communication
  - Communication Systems
  - Controller Area Network
  - Local Interconnect Network

- Powertrain Control
  - Engine control
  - Gasoline management
  - Fuel injection

- Chassis
  - Braking Systems
  - Electronic Power Steering
  - Active Suspension

Source: Frost & Sullivan

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Electronics Value Chain... Auto Nav System

Display
Touchscreen Overlay
MCU 32 bit 32 MHz 1 MB Flash 64 KB RAM
16-Channel 10-bit ADC
Regulator DC_DC converter
Power Management IC

OMAP Processor, ARM11
Dual core 400 MHz
MCU 32-bit 32 MHz 128 I/Os
MCU 32-bit 400 MHz
Gyroscope
GPS Receiver
Flash 8GB MLC
Flash 4GB
CD/DVD Drive

Chrysler 300
Hyundai Sonata
Source: IHI Electronics360 130813
Multi-Tiers of Value Chain and Ecosystems

Value Chain ➞ 
Supply Chain ←

PP Supplier’s Supplier ➞ PP’s Supplier ➞ Product Provider ➞ Customer ➞ Customer’s Customer

Technology

PCB Foundry Packages

MANY Opportunities for Innovation & Electronics Development

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Fire TV is a tiny box that plugs into your HDTV. It’s the easiest way to enjoy Netflix, Prime Instant Video, Hulu Plus, WatchESPN, low-cost video rentals, and more. With instant access to over 200,000 TV episodes and movies, plus all your favorite subscriptions and streaming services, you can watch what you want, when you want. If you’re a Prime member, you get unlimited access to thousands of popular movies and TV shows, including exclusives like Downton Abbey, The Americans, Alpha House, and Under the Dome.

Fire TV has voice search that actually works. The old way of searching with a TV remote—scrolling and clicking one letter at a time on an alphabet grid—is painful. With Fire TV you simply speak the title, actor, or genre into the remote and you’re done.

Fire TV may be tiny on the outside, but it has huge hardware specs on the inside. It has a powerful quad-core processor, dedicated GPU, 2 GB of memory, and dual-band, dual-antenna Wi-Fi. With a fast, fluid interface, high definition 1080p video, and Dolby Digital Plus surround sound, Fire TV looks—and sounds—amazing. We also added an exclusive new feature called ASAP that predicts what movies and TV episodes you'll want to watch and gets them ready to stream instantly. No one likes waiting for videos to buffer.

As a bonus, we also added games. With Fire TV you can play blockbuster titles like Minecraft, The Walking Dead, Monsters University, the Amazon exclusive Sus Zero, plus great free games. There are over a hundred titles to explore, with thousands more coming soon. These games are a great value—the average price of paid games is only $1.85.

Source: www.amazon.com
Example: Amazon FireTV

HW 3 – TEAM Entrepreneurial Inventory – Presentation 1

Due on Wednesday, April 9th

Be prepared to make a 3 minute presentation…we will call on all Teams

1. Introduce your Team

2. Your Entrepreneurial IDEA?

3. What Customer problem does your idea solve?

4. Who are the potential Customers?

5. Who is your Competition? How will you DIFFERENTIATE your product?

6. Who will make it?

7. How big a company do you want to build? Revenue? # people?