



# Intersection of Energy and Mobile

John Busbee, Xerion Advanced Battery

Tejas Shastry, AMPY

Abhilash Jindal, Mobile Enerlytics

# Why Does It Matter?

- Dead phone battery
- No mobophobia: The stress and anxiety associated with your mobile phone running out of battery, losing connection, or getting lost
- DPS (dead phone syndrome): Feelings of isolation, cut-off from civilization, lost, nervousness, agitation, panic
- Huge opportunity → 2 billion mobile phones shipped worldwide last year (70% were smart phones)



# Mobile Enerlytics:

## Abhilash Jindal

- Inefficient software is a major culprit
- Facebook app will drain a battery in 9 hours
- Enerlytics: solution for end users to help users find efficient apps and remove inefficient apps
- Eprof: fine-grained energy profiler that pinpoints energy hotspots among millions of lines of app source code
- Enerlytics had 80K users in 6 months with positive press early on
- eSTAR works on crowd sourcing for information
- Value is in amount of data they have about apps



# AMPY: Tejas Shastry

- Goal: you never get stuck with a dead battery again
- AMPY fits into your pocket → as long as you're moving, it is charging itself
- App to track battery life based on usage habits, tracking user information if you're an active user
- You can get hours of energy from your AMPY
- Future of technology is self-powered wearables
- AMPY monitors actual device, not apps
- Evaluation and analysis syncs to AMPY's server & allows them to be energy efficient



# AMPY: Barriers to Entry

- Fundraising: raised angel investment, Kickstarter campaign
- Getting to market quickly
- Risk of becoming obsolete
- Quickly finding innovative wearables



# Xerion: John Busbee

- Goal: Ability to charge a smartphone battery in 2-3 minutes (5-7 minutes with the current wall chargers)
- Problem: running GPS and Bluetooth makes your phone hot, and the battery quickly drains
- Solution: Xerion's battery doesn't self-heat and also has flexible format
- Xerion has malleable forms → allows batteries to take many forms, such as arms of glasses; can flex a battery 3000 times and only have 20% degradation
- Xerion's advantage is their combination of products
- Important to demonstrate significant cost reduction
- Applications: Electric vehicle industry, drones, power tools, energy storage



# Xerion: Barriers to Entry

- Competition
- Cap costs for startups
- Can't look for investment unless you can convince investors there is a compelling advantage
- Pressure to do work in Asia
- SBIR funding is a hard way to do business
- There are lots of battery startups, but there is room because it's such an important problem

