



Buy Pitch

Technology, Media & Telecom
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Business Overview



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Business Overview

Company Description

Ambarella Inc.

| | |
|-------------------|--------------|
| Ticker | NASDAQ: AMBA |
| Stock Price | 18.54 |
| IPO Date | Oct. 2012 |
| Market Cap | 510 MM |
| Revenues | 139 MM |
| P/E Ratio (2014E) | 21.1 x |



- Ambarella is a developer of solutions for video, participating in several high-growth end markets including:
 - Automotive “Dash Cams”
 - Wearable Sports Cameras
 - Ultra High Definition TV’s
 - Video Surveillance Cameras
 - Infrastructure Video Solutions
- Fabless semiconductor company whose main product is their flagship system-on-a-chip (SoCs)
- Lacklustre IPO in Oct. 2012 because of lower semiconductor valuations, but large appreciation since

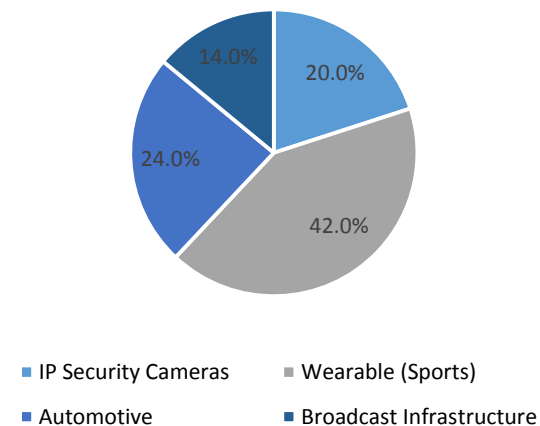
Business Overview

Business Model



- 444 employees worldwide, with over 75% devoted to R&D
- Ambarella makes money by continually developing successful chips and earning design wins from ODM's and OEM's
- Majority of Ambarella's SoCs are manufactured by Samsung or TSMC
- Sales to customers in Asia accounted for 87% of revenues in 2013; most OEM's/ODM's reside in Asia
- Ambarella's video solutions ultimately go into a wide variety of end markets, which are determined later in the value chain

Revenue Breakdown by End Market



Thesis



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Investment Thesis

Best-in-class video SoC technology with historically proven management team

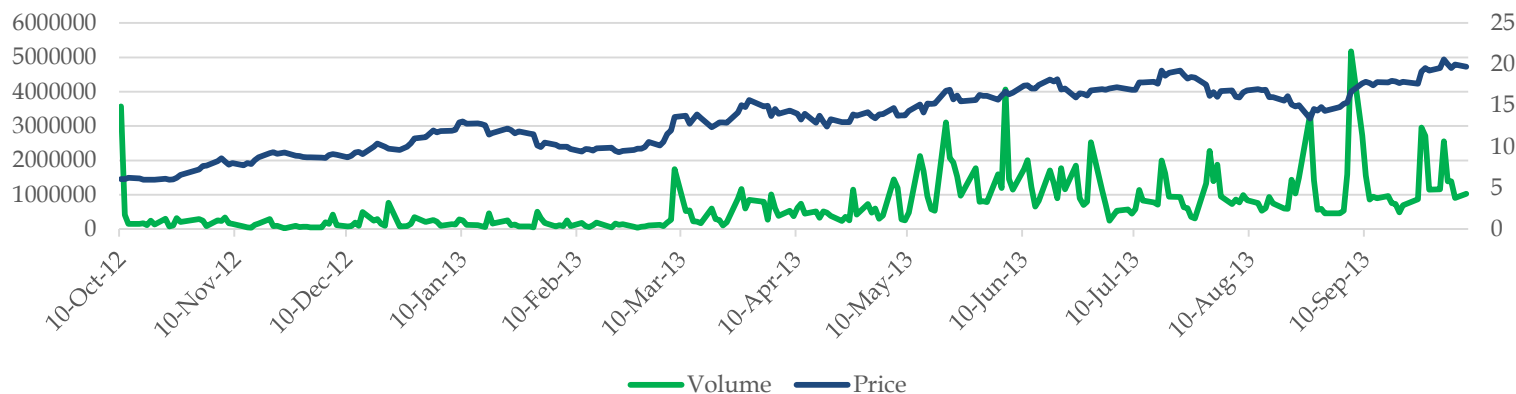
4/5 end markets are poised for explosive growth (20%+ CAGR) in medium term

Few pure-play competition; only semiconductor company that is specialized in these particular markets

Clean balance sheet, strong cash position of \$ 118 M with no debt outstanding

Undervalued with regards to P/E and EV/EBITDA compared to SoC peer group

Ambarella Price vs. Volume Chart



Internal



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Internal

Company Analysis

Features



- Fermi Wang (CEO) and senior management are extremely seasoned in niche design of video semiconductors; hold patents for MPEG codec and C-Cube video compression
- Collectively one of the strongest teams in video, +10 years
- R&D historically composes ~30% of sales
- Chips have technical superiority in terms of power draw

Highlighted Products



- Ambarella A5s runs at extremely low power and is perfect for solution that require long battery life



- Ambarella A7L-A is extremely specialized for automotive; provides front/back view, license plate scanner and lightfinder capabilities

Internal

Existing Product Offerings



External and Catalysts



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External and Catalysts

End Markets

Automotive

- Social norm in Asia/Russia is to have dash cams because of large amount of fraudulent activities and car accidents
- Expected CAGR is 34.55% through 2016
- Insurance industry is reacting; **U.K companies will start to use ~15% discounts for dash cameras**



UHDTV

- UHDTV (Ultra High Def) is next generational technology product
- Early adoption to begin 2013, Ambarella one of very few companies to offer compatible compression solution (A9 chip)
- **500,000 units using this technology expect to ship in Asia/Europe by end of 2013**



External and Catalysts

End Markets

Video Surveillance

- Entire industry transitioning analog cameras to superior IP cameras as cost drops
 - IP camera companies have already appreciated greatly on this revelation (TSX: AVO, STO: AXIS)
- Global CAGR forecast at 23% through 2017, large amount derived from security-conscious North America
- **2014 is expected to be the first year that revenues from IP cameras are exceed revenues from analog legacy cameras, symbolic tipping point**

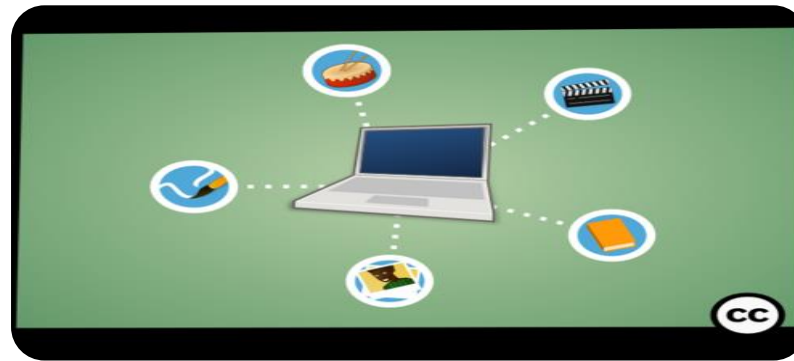


External and Catalysts

End Markets

Infrastructure and Broadcast Solutions

- Includes broadcast solutions, video compression systems, targeted specifically at sports broadcasting telecom, a ~1 B market Ambarella dominates
- *Safe* segment, but criticized component of Ambarella as it has a slower life cycle and does not undergo frequent product introductions
- **H2 2013 product offerings expected to introduce new chip into infrastructure market, which will stabilize this segment's earnings**

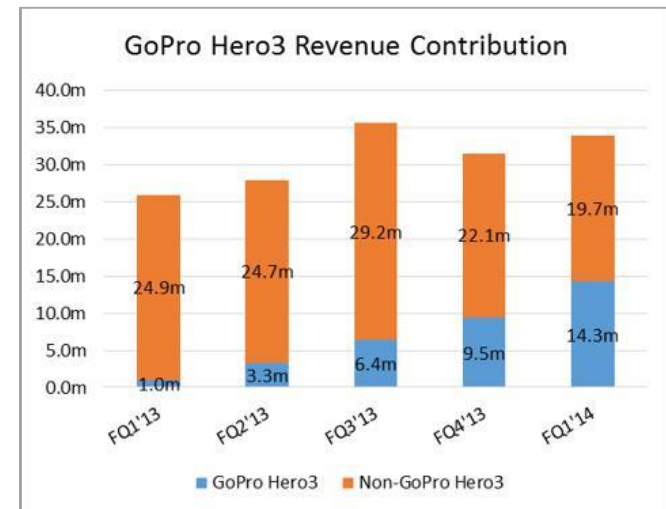


External and Catalysts

End Markets

Wearable Sports Cameras

- Sells to ODM Chicony, who is the manufacturer for the definitive market leader in the sports camera segment, GoPro
- Has exponentially grown to become the largest composition of Ambarella's revenues; analysts expecting 20% q-o-q growth in this segment
- **GoPro Hero 4 announced Sept 2013, powered by Ambarella A9 chip**



Valuation



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Valuation

Discounted Cash Flow Analysis

WACC Calculation

Target Capital Structure

| | |
|--------------------------------|--------|
| Debt-to-Total Capitalization | 0.0% |
| Equity-to-Total Capitalization | 100.0% |

Cost of Debt

| | |
|------------------------|-------|
| Cost of Debt | 0.0% |
| Tax Rate | 10.0% |
| After-tax Cost of Debt | 0.0% |

Cost of Equity

| | |
|---------------------|-------|
| Risk-free Rate | 2.94% |
| Market Risk Premium | 7.75% |
| Levered Beta | 0.69 |
| Size Premium | 0.00% |
| Cost of Equity | 6.26% |

| | |
|-------------|--------------|
| WACC | 6.26% |
|-------------|--------------|

Unlevered Beta Calculation

| <u>Company Name</u> | <u>Levered Beta</u> | <u>Debt</u> | <u>Equity</u> | <u>Tax</u> | <u>Unlevered Beta</u> |
|-----------------------|---------------------|-------------|---------------|------------|-----------------------|
| Ambarella Inc. | 0.69 x | 0 M | 510 M | 10.0% | 0.69 x |

High Margin Segment

| | | | | | |
|----------------------|--------|------|--------|-------|--------|
| Sigma Designs | 0.52 x | 0 M | 194 M | 17.0% | 0.52 x |
| EZChip Semiconductor | 0.86 x | 0 M | 712 M | 25.0% | 0.86 x |
| MaxLinear | 0.45 x | 0 M | 306 M | 25.0% | 0.45 x |
| Silicon Laboratories | 1.11 x | 96 M | 1865 M | 26.4% | 1.07 x |

Lower Margin Segment

| | | | | | |
|-------------------------|--------|-----|--------|-------|--------|
| CSR | - | 1 M | 1453 M | 24.5% | - |
| Entropic Communications | 2.42 x | 0 M | 403 M | 13.0% | 2.42 x |

| | | | | | |
|---------------|-------|--|--|--|-------|
| Median | 0.69x | | | | 0.69x |
|---------------|-------|--|--|--|-------|

Valuation

Discounted Cash Flow Analysis

| | |
|--------------------------|----------------|
| Enterprise Value | 889,667 |
| Add: Long-Term Debt | - |
| Add: Minority Interest | |
| Add: Preferred Shares | |
| Less: Cash & Investments | (118,000) |
| Equity Value | 771,667 |

| | |
|-----------------------------------|--------|
| Basic Shares Outstanding | 27,560 |
| Weighted Average Price | 6.52 |
| Volume of Shares | 4,007 |
| Dilution | 2,598 |
| Diluted Shares Outstanding | 30,158 |
| Share Price | 25.59 |
| Current Share Price | 18.54 |
| <i>Implied Upside</i> | 27.54% |

Revenue Growth % By Segment

| | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>2017</u> | <u>2018</u> |
|--------------------------|-------------|-------------|-------------|-------------|-------------|
| IP Security Cameras | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Wearable (Sports) | 20.0% | 20.0% | 20.0% | 15.0% | 10.0% |
| Automotive | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Broadcast Infrastructure | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |

Valuation

Comparables Analysis

Trading Companies

| Company Name | Price | Market Cap | Gross Margin | P/E | | EV/EBITDA | | EV/Sales | |
|-----------------------------|--------|------------|--------------|-------|-------|-----------|-------|----------|-------|
| | | | LTM | 2014E | 2015E | 2014E | 2015E | 2014E | 2015E |
| Ambarella Inc. | 18.54 | 510 MM | 88.0% | 21.1x | 17.9x | 13.4x | 10.8x | 2.8x | 2.4x |
| <i>High Margin Segment</i> | | | | | | | | | |
| Sigma Designs | 5.72 | 198.0 M | 91.0% | 24.2x | 13.9x | 5.1x | 4.8x | 0.6x | 0.5x |
| EZchip Semiconductor | 24.98 | 703.0 M | 82.9% | 21.1x | 16.2x | 15.5x | 10.9x | 7.3x | 5.8x |
| MaxLinear | 7.65 | 264.0 M | 61.7% | 23.3x | 18.5x | 12.7x | 34.8x | 1.7x | 1.5x |
| Silicon Laboratories | 41.68 | 1.82 B | 60.5% | 21.2x | 18.9x | 12.3x | 12.0x | 2.7x | 2.5x |
| <i>Lower Margin Segment</i> | | | | | | | | | |
| CSR | 526.08 | 1.40 B | 49.1% | 18.6x | 17.2x | 8.4x | 8.1x | 1.1x | 1.2x |
| Entropic Communication | 4.36 | 397.0 M | 47.4% | - | - | - | - | 1.1x | 1.1x |
| Average | | | 74.0% | 22.5x | 16.9x | 11.4x | 15.6x | 3.1x | 2.6x |
| Median | | | 61.1% | 22.3x | 17.4x | 12.5x | 11.5x | 2.2x | 2.0x |

- Competitors selected on business model (fabless system-on-chip semiconductor providers) and market capitalization
- Segmented by gross margin to produce more accurate representation
- No other company has been adopted into all of our specific end markets, so it is difficult to find a pure comparable

Risks

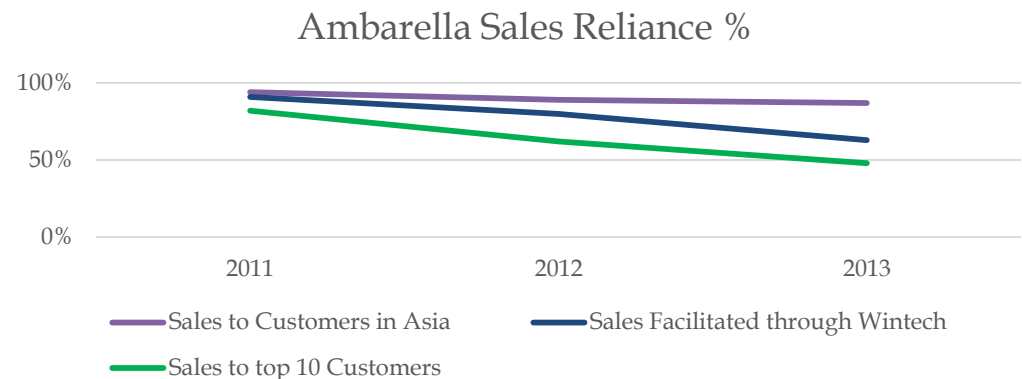


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Risks

Most of Ambarella's risks are supply chain risks due to the niche production cycle and nature of industry

- Limited number of customers (48% of revenues to 10 largest customers)
- Reliance on Samsung and TSMC for all manufacturing; only 3 companies in the world have foundries that can produce our 32 nm size chips
- Large reliance (63%) of revenues facilitated through logistics provider, Wintech
- High geographic concentration of OEM sales in Asia (87% in 2013)
- Industry requires continued design wins to be adopted by ODM/OEM's, putting heavy onus on ability to innovate





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October 10th, 2013



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