Today's Research Highlights

Technology, Media & Telecom

Advanced Micro Devices

7nm Growth Thesis Intact For '19/'20; Near-Term GPU Headwind Larger Than Feared

THE COWEN INSIGHT

AMD posted a mixed 3Q and delivered weak 4Q guidance. Despite near-term GPU and console weakness in Q4, our long-term fundamental thesis remains intact. We believe AMD remains positioned for sustainable x86 PC and server CPU share gains as we enter a period where the company will have its first manufacturing advantage against Intel in recent memory.

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DXC Technology

Risk Reward May Offer Attractive Trade Despite Elevated Uncertainty

THE COWEN INSIGHT

The risk reward on DXC shares seems hard to ignore at ~8x FY20 EPS. There is elevated uncertainty into its F2Q results/Analyst Day and the question of whether it can ultimately turn the top line persists, but we see no apparent change to the crux of this cost-driven story. We await clarity but see an attractive discount post steep correction for more risk tolerant investors; PT $90.

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Capital Goods/Industrials

**Ingersoll-Rand plc**

**Q3 Affirms Our Bullish Thesis.**

**THE COWEN INSIGHT**

Q3 results were strong, order momentum remains healthy, capital allocation plans seem prudent, and initial C19 color is upbeat. These differentiated points from other industrials should drive an upward re-rating of IR's stock.

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Technology, Media & Telecom

**ServiceNow**

**Solid 3Q Billings Beat Led By Fed; Raises FY Guidance for First Time This Year**

**THE COWEN INSIGHT**

NOW delivered a solid 3Q with sub billings growth of 34% cc above our 31% estimate, and high-end of FY18 growth guide was raised from 31% to 32% cc. NOW had its strongest federal qtr ever and was 20% of net new ACV. Emerging products had a strong qtr as well and we see a long runway ahead as NOW expands into a more strategic Digital Workflow Platform for large enterprises. Raise PT to $210.

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Other Research Today

Consumer

**Alaska Air Group**

**RASM Inflection Is Finally Here**

**THE COWEN INSIGHT**

Alaska Air Group reported 3Q18 results ahead of consensus estimates. Alaska’s RASM outlook is now firmly positive and could wind up being the best sequential improvement in the industry. Alaska Airlines needs to continue to focus on improving margins in 2019.

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Health Care

Alexion Pharmaceuticals

Business Is Humming; We Are Hopeful Ultomiris Will Relieve Competitive Concerns

OUTPERFORM (1)

<table>
<thead>
<tr>
<th>Symbol</th>
<th>NASDAQ: ALXN</th>
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<tr>
<td>Price Target</td>
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<td>Price (10/23/2018)</td>
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<td>Market Cap (MM)</td>
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**EPS $**  
<table>
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<tr>
<th>2017A</th>
<th>2018E</th>
<th>2019E</th>
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</thead>
<tbody>
<tr>
<td>Cowen</td>
<td>$5.86</td>
<td>$7.60</td>
</tr>
<tr>
<td>Prior</td>
<td>-</td>
<td>$7.19</td>
</tr>
<tr>
<td>Consensus</td>
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<td>$7.25</td>
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**THE COWEN INSIGHT**

ALXN’s Q3 revenue and EPS beat consensus, prompting an increase in 2018 guidance, as Soliris’s launch in gMG bested its prior launches in aHUS and PNH. Ultomiris is on track for a February 2019 approval. We are optimistic that a rapid conversion onto Ultomiris will increase investors’ appreciation for ALXN’s prospects for long-term revenue growth.

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Consumer

Allegiant Travel Company

Operational Improvement At Airline Continues

MARKET PERFORM (2)

<table>
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<tr>
<th>Symbol</th>
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<td>Price Target</td>
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<td>Market Cap (MM)</td>
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**EPS $**  
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<th>2017A</th>
<th>2018E</th>
<th>2019E</th>
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<tr>
<td>Consensus</td>
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**THE COWEN INSIGHT**

Allegiant Travel’s 3Q18 results were aided by a lower than expected tax rate. Underlying operational performance continues to improve despite fleet transition. Allegiant will completely retire the MD80s after the Thanksgiving travel period and become a full A320-family operator.

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Capital Goods/Industrials

Amphenol Corporation

Impressive In The Face Of Palpable Fear Elsewhere

OUTPERFORM (1)

<table>
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<tr>
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<td>Price Target</td>
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**THE COWEN INSIGHT**

APH delivered a very strong operational quarter with solid contribution from nearly all its end markets. Auto, while slightly below model was still robust and commentary doesn’t suggest the huge declines many feared - as customer diversity and content growth continue. This is the type of market that will likely reward those that minimize volatility, something APH does well.

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**Technology, Media & Telecom**

### AT&T

**Entertainment Results Suggest a Challenging Balancing Game**

#### THE COWEN INSIGHT

T reported mixed headline 3Q18 results with solid Wireless, mixed WarnerMedia, but weak Ent. results. Downside Ent. margins and DTV Now adds suggest a challenging balancing game between profits and uptake. While we don’t see the stock turning around in the NT, the sell-off felt overdone while making good on promises of flat Ent. EBITDA and +$25B FCF in 2019 could ultimately drive material upside.

**MARKET PERFORM (2)**

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<tr>
<th>Symbol</th>
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<th>Price (10/24/2018)</th>
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<td>Consensus</td>
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<td>$3.54</td>
<td>$3.65</td>
</tr>
</tbody>
</table>

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### Capital Goods/Industrials

### Boeing Company

**Strong Q3 Bolsters Extended Cash Ramp**

#### THE COWEN INSIGHT

Healthy but messy Q3 showed impressive commercial execution bolstering our thesis that BA’s favorable production set up augurs cash flow ramp to ~$35/sh. by 2021. With a 7.9% 2019 CF yield, it’s our #1 pick for a $445 PT.

#### OUTPERFORM (1)

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<td>$15.20</td>
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<td>Consensus</td>
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<td>$17.78</td>
<td>$20.88</td>
<td>$23.40</td>
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</table>

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### Health Care

### Boston Scientific

**BSX Extends Its Top-Line Growth Hot Streak in 3Q; We Like the Outlook for 2019**

#### THE COWEN INSIGHT

BSX again showed stellar organic sales growth in 3Q – this time, 8.7%, which is an unquestionably solid number that topped our expectation by 140 bps. The company delivered across all of its businesses, with Cardiovascular up 7.2% organically, MedSurg up 11.0% and Rhythm & Neuro up 8.3%. Reported sales reflect the 140-bp Fx headwind that developed intraquarter vs. the prior “immaterial” forecast.

#### OUTPERFORM (1)

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<th>2019E</th>
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<td>$1.40</td>
<td>$1.58</td>
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Consumer

Callaway Golf

Callaway Continues To Hit It Long and Straight

THE COWEN INSIGHT

Q4 guidance is below consensus and until we have a better understanding of sell in dynamics in 1H:19 we would remain on the sidelines. The ability to expand operating margin beyond what is now a peak level will be critical for future growth. Reiterate $24 price target.

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Energy

U.S. Liquefied Natural Gas

Lng Industry 3Q18 Preview

THE COWEN INSIGHT

GLNG results should benefit from lng carrier rates in 3Q18, which have climbed to multi-year highs, while Tortue FID remains an important near-term catalyst that may not be priced into the stock. LNG should provide an update on new train startups on its quarterly call; we forecast first lng late 2018.

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Technology, Media & Telecom

Citrix Systems

Delivers 3Q Upside, Provides Healthy Initial Outlook for 2019

THE COWEN INSIGHT

As previewed, CTXS reported upside to consensus 2Q expectations, with particular strength in Workspace Services and enterprise networking. Mgmt also provided healthy initial 2019 guidance. While we continue to expect the subscription transition to be gradual, we retain our positive bias on the shares at current levels.

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Core Laboratories N.V.
3Q18 Earnings at a Glance

MARKET PERFORM (2)
Symbol: NYSE: CLB
Price Target: $100.00
Price (10/24/2018): $91.98
Market Cap (MM): $4,066.7

THE COWEN INSIGHT
Negative: 3Q EPS of 64c at low end of guided range and 4Q guided to 48-54c below 58c consensus as CLB sees flattish international activity and a decline in U.S. completions. While CLB had discussed 4Q weakness in an Oct 4th 8-K, no specific guidance was provided. 2019 tax rate could be 20% vs guided 15% in 4Q and our modeled 15% in 2019. 8:30 AM Call.

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Covenant Transportation Group
Recent Acquisition Helps Drive 3Q

MARKET PERFORM (2)
Symbol: NASDAQ: CVTI
Price Target: $32.00 (Prior $36.00)
Price (10/24/2018): $25.26
Market Cap (MM): $463.4

EPS $ 2017A 2018E 2019E
Cowen $0.86 $2.20 $2.65
Consensus $0.86 $2.04 $2.50

THE COWEN INSIGHT
CVTI reported a 3Q top and bottom-line beat. Early returns on CVTI’s Landair acquisition are positive, with mgmt highlighting salesforce synergies which may result in increased shipper wins. Mgmt expects a strong peak season and 4Q. We maintain our Market Perform rating on the stock as we remain somewhat concerned about the broader market weakness the past month.

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Echo Global Logistics
ECHO’s 3Q: Another EPS and EBITDA Beat

OUTPERFORM (1)
Symbol: NASDAQ: ECHO
Price Target: $40.00 (Prior $42.00)
Price (10/24/2018): $24.25
Market Cap (MM): $692.3

EPS $ 2017A 2018E 2019E
Cowen $0.86 $1.77 $2.00
Consensus $0.86 $1.52 $1.72

THE COWEN INSIGHT
ECHO reported an EPS and EBITDA beat, with a top line that slightly missed our estimates. Mgmt continues to sound confident in ECHO’s growth, proprietary technology development, and the broader freight marketplace. While we maintain our Outperform rating on the Chicago-based broker, we note the next quarter could prove challenging for the company.

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Technology, Media & Telecom

**Equifax**

**EFX 3Q18 Quick Take: Growth Dissapoints**

**OUTPERFORM (1)**

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Price Target</th>
<th>Price (10/24/2018)</th>
<th>Market Cap (MM)</th>
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<tbody>
<tr>
<td>NYSE: EFX</td>
<td>$141.00</td>
<td>$115.36</td>
<td>$13,890.8</td>
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</table>

**THE COWEN INSIGHT**

EFX reported disappointing 3Q results. Organic cc revenue growth decelerated to 2%, below our estimate and company guidance. Consequently EFX lowered its 2018 outlook now expecting cc revenue growth of 2.2%-2.7%. While the deceleration is credibly explained (share loss is not the primary driver), it pushes our growth acceleration thesis out and will weigh heavily on the stock tomorrow in our view.

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**Link to Full Note**

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Technology, Media & Telecom

**F5 Networks**

**FY4Q18: Another Step Forward**

**OUTPERFORM (1)**

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<tr>
<th>Symbol</th>
<th>Price Target</th>
<th>Price (10/24/2018)</th>
<th>Market Cap (MM)</th>
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<tbody>
<tr>
<td>NASDAQ: FFIV</td>
<td>$196.00 (Prior $186.00)</td>
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**EPS $**

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<th>2019E</th>
<th>2020E</th>
<th>2021E</th>
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<tr>
<td>Cowen</td>
<td>$10.96</td>
<td>$12.09</td>
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<tr>
<td>Prior</td>
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<td>$11.89</td>
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<tr>
<td>Consensus</td>
<td>$10.43</td>
<td>$11.34</td>
<td>$10.10</td>
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**THE COWEN INSIGHT**

A second straight quarter of encouraging operating results and outlook with building momentum in F5’s Software, Security and Cloud business, FY4Q18 reinforced our positive view of oper model and shares. We continue to see solid LT underlying demand drivers with F5 well-positioned to address Cloud transformation. We have increased our PT to $196 from $186 and reiterate our Outperform rating.

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**Link to Full Note**

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Capital Goods/Industrials

**General Dynamics**

**Nordam Glitches Delay G500/600 Build**

**OUTPERFORM (1)**

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<thead>
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<th>Symbol</th>
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<th>Market Cap (MM)</th>
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<tbody>
<tr>
<td>NYSE: GD</td>
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**EPS $**

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**THE COWEN INSIGHT**

GD’s 8% selloff on uninspiring Q3 & Gulfstream slip looks overblown. Its defense uptrend is intact, bizjet demand improving, and it’s recovering from G500 nacelle delay glitches. The stock has support from a 7.2% cash flow yield with expected firming Gulfstream book-bill in Q4.

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**Link to Full Note**
Technology, Media & Telecom

E-Commerce

3Q18: SMID-Cap Internet Earnings Preview

THE COWEN INSIGHT

In this note we preview 3Q18 results for 6 names in our coverage universe including GRPN, YELP, CRTO, TRUP, CISN and LEAF. We expect most reports to take place in late October / early November.

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Technology, Media & Telecom

Hilton Worldwide Holdings

Q3: Strong Pipeline, But Macro & FCF Commentary Disappointing; PT To $74

OUTPERFORM (1)
Symbol NYSE: HLT
Price Target $74.00 (Prior $81.00)
Price (10/24/2018) $63.82
Market Cap (MM) $18,927.1

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Technology, Media & Telecom

La Jolla Pharmaceutical

Q3 Revenues In-Line With Expectations, Giapreza Continues Steady Uptake

OUTPERFORM (1)
Symbol NASDAQ: LJPC
Price Target $50.00 (Prior $47.00)
Price (10/24/2018) $15.23
Market Cap (MM) $399.5

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Link to Full Note

Link to Full Note

Link to Full Note
**Technology, Media & Telecom**

**Semiconductors**

Hynix’s CQ3:18 Earnings = Another Negative Read On Semis

**THE COWEN INSIGHT**

Hynix articulated an uninspiring demand outlook, and the largest surprise to us was commentary indicating server DRAM will remain weak until 2H:19. Concurrently, a challenging backdrop for smartphones and low-end PCs is causing elevated NAND inventory and expected NAND ASP declines through CQ1:19. Server/PC commentary reads negative for STX, MU & WDC; capex commentary is an overhang for ICHR/UCTT.

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**Capital Goods/Industrials**

**Melexis NV**

Guidance Disappoints - Dragged Down by Macro Auto and Inventory Management

**MARKET PERFORM (2)**

Symbol: BXS: MELE.BB
Price Target: £59.00 (Prior £81.00)
Price (10/23/2018): £60.20
Market Cap (MM): €2,432.1

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<tbody>
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<td>Cowen</td>
<td>€3.17</td>
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<td>€3.03</td>
<td>€3.39</td>
<td>€3.74</td>
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**THE COWEN INSIGHT**

Melexis 3Q18 results came in slightly below estimates on the topline, with GM driving EPS upside vs. our estimates. Implied guidance of ~€140.2mn for 4Q18 came in below our €150mn prior expectations, as auto and non-auto customers look to manage inventory. Valuation looks more compelling here, but we see Auto Tech names underperforming into Spring 2019 on tariff concerns.

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**Technology, Media & Telecom**

**Microsoft**

A Good Start to FY19; Reiterate Outperform

**OUTPERFORM (1)**

Symbol: NASDAQ: MSFT
Price Target: $117.00
Price (10/24/2018): $102.32
Market Cap (MM): $785,430.7

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<th>2020E</th>
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<td>$3.90</td>
<td>$4.27</td>
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**THE COWEN INSIGHT**

MSFT delivered another quarter of revenue and margin upside, with strength across all three segments. MSFT’s fundamentals remain strong overall, and we reiterate our Outperform and $117 price target.

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Capital Goods/Industrials

Norfolk Southern Corp.
Ahead of Schedule, Longer Term Update Coming in February

OUTPERFORM (1)

Symbol | NYSE: NSC
Price Target | $194.00 (Prior $189.00)
Price (10/23/2018) | $156.97
Market Cap (MM) | $43,956.3

THE COWEN INSIGHT

NSC delivered another strong quarter, beating our and Street estimates top to bottom. EPS and OR were third-quarter records. The company has begun implementing an evolutionary operating plan pillared on “clean sheeting” and aspects of PSR and intends to provide an updated strategic vision in February. Reiterating Outperform and raising PT to $194 from $189.

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THE COWEN INSIGHT

NOC's 6% selloff following a Q3 beat & raise likely reflects yesterday's nasty tape and non-cash pension optics paring 2019 GAAP EPS. However, NOC's moderated 14.5x 2019 TEV/EBITDA still is a peer high, which looks fairly priced.

Northrop Grumman

MARKET PERFORM (2)

Symbol | NYSE: NOC
Price Target | $350.00
Price (10/24/2018) | $285.86
Market Cap (MM) | $49,774.9

THE COWEN INSIGHT

Modest Negative: Slight EBITDA beat, but guidance for 2018 EBITDA to be at the ‘lower half’ of $140-160MM range implies downside to 4Q. Lack of formal 2019 guide may disappoint some, but management does see increased activity levels in each segment led by Subsea Products. 11AM Call.

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THE COWEN INSIGHT

THE COWEN INSIGHT

Energy

Oceaneering International

3Q18 Earnings at a Glance

THE COWEN INSIGHT

THE COWEN INSIGHT
Consumer

**Restaurant Brands International**
We Remain Optimistic on the Path Ahead

OUTPERFORM (1)
Symbol: NYSE: QSR
Price Target: $74.00
Price (10/24/2018): $56.22
Market Cap (MM): $26,368.5

THE COWEN INSIGHT
We believe 3Q’s global store opening slowdown is transitory, while in-line to better than expected Tim’s Canada comps (~50% of adj. EBITDA) should be enough to offset what could be continued softness at BK U.S. (~20-25% of adj. EBITDA). We want to highlight that we model a $55M impact to 4Q adj EBITDA related to ASC 606 revenue recognition for franchise fees, though importantly this is non-cash.

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Health Care

**Sarepta Therapeutics**
3Q18: Exondys Growth Continues As Pipeline Continues to Expand And Progress

OUTPERFORM (1)
Symbol: NASDAQ: SRPT
Price Target: $178.00
Price (10/24/2018): $123.04
Market Cap (MM): $8,175.1

THE COWEN INSIGHT
SRPT reported 3Q18 financials, with Exondys revenues very slightly below consensus, but still on track for FY18 guidance. SRPT continues to progress and add on to its now deep, diversified and promising pipeline of neuromuscular/CNS gene therapy programs which should drive forward value. We are optimistic on the microdystrophin GT program, and potential of the rest of the gene therapy pipeline.

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Technology, Media & Telecom

**Silicon Laboratories**
Solid Results; Ugly Tape

OUTPERFORM (1)
Symbol: NASDAQ: SLAB
Price Target: $107.00 (Prior $125.00)
Price (10/24/2018): 77.46
Market Cap (MM): 3,342.3

THE COWEN INSIGHT
Silicon Labs reported strong 3Q results but issued 4Q guidance (not surprisingly) below consensus - better than feared following bellwether Texas Instrument’s weak outlook. Though macro is clearly weighing on the group, we believe long-term Silicon Lab’s IoT portfolio and ramping Infrastructure business should drive well-above peer growth. We remain Outperform with a lowered $107 target.

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Technology, Media & Telecom

**Software**

**Take-Aways From Tableau Conference; Data Points On the Broader Analytics Market**

**THE COWEN INSIGHT**

We attended Tableau’s annual users conference in New Orleans this week. There were 17k in attendance, up ~20% Y/Y vs. the 14k last year. There were no major new product announcements and we came away with the sense that business trends are stable with no meaningful change in directional drivers. Trading at ~7.5x EV/CY19E Recurring Revenue, we maintain our Market Perform rating.

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**Consumer**

**Specialty Retail**

**Cowen Pulse On Retail: Cold Snap Driving Apparel Traffic; Helping Seasonal**

**THE COWEN INSIGHT**

October Week 3 total U.S. retail traffic decreased -0.8% y/y vs. -1.7% y/y last week. Apparel traffic increased +1.8% y/y vs. last week’s +0.4% y/y. On a 2-year basis, total U.S. retail traffic was down -4.6% vs. last week’s -7.0%. October Week 3 temperatures were -8.4° colder vs. LY but -1.8° below average.

Cowen Retail Team
retail@cowen.com

**Consumer**

**Spirit Airlines**

**Initiatives Driving Unit Revenue Higher**

**MARKET PERFORM (2)**

<table>
<thead>
<tr>
<th>Symbol</th>
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<tbody>
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<td>Price Target</td>
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<tr>
<td>Price (10/24/2018)</td>
<td>$47.69</td>
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<tr>
<td>Market Cap (MM)</td>
<td>$3,255.0</td>
</tr>
</tbody>
</table>

**THE COWEN INSIGHT**

Spirit Airlines reported 3Q18 revenue and earnings ahead of consensus, and in line with our estimates. Management forecast 4Q18 unit revenue growth of ~6%, which is above our expectations despite higher capacity growth. The unit revenue outlook is driven by strong close-in bookings, changes to the network and continued growth in ancillary fees.

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Energy
SunPower
3Q18 Preview: Tariff Headwinds Abate; NGT Ramping; Balance Sheet Set to Improve

OUTPERFORM (1)
Symbol    NASDAQ: SPWR
Price Target $10.00
Price (10/24/2018) $6.42
Market Cap (MM) $905.2

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<td>$(0.24)</td>
<td>$(0.80)</td>
<td>$(0.02)</td>
<td>$0.06</td>
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THE COWEN INSIGHT
We are constructive on SunPower heading into earnings. The company received an exemption from the Section 201 tariffs for its IBC modules. This should help SunPower to better compete on price and drive higher utilization. The NGT ramp should further this competitive position given higher efficiencies and lower manufacturing costs. B/S deleveraging should continue w/ monetization of lease portfolio.

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Link to Full Note

Energy
TechnipFMC
3Q18 Earnings at a Glance

OUTPERFORM (1)
Symbol    NYSE: FTI
Price Target $37.00
Price (10/24/2018) $27.24
Market Cap (MM) $12,380.6

THE COWEN INSIGHT
Neutral: EBITDA beat with solid orders, but 2018 Subsea margin guide unchanged could imply a significant drop in 4Q. Lack of 2019 guide (now scheduled for Dec 12th) may disappoint as some expected at 3Q update. Cash generation turned positive, but momentum will need to continue. 8AM call.

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Link to Full Note

Capital Goods/Industrials
Tesla
25% Auto GM & Improved W/C Impress, But Competition & Valuation Concerns Remain

UNDERPERFORM (3)
Symbol    NASDAQ: TSLA
Price Target $250.00 (Prior $200.00)
Price (10/24/2018) $288.50
Market Cap (MM) $49,216.1

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<tr>
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<td>$(7.00)</td>
<td>$5.56</td>
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THE COWEN INSIGHT
The ~25.5% auto margin, >20% Model 3 margin, and the company’s control of Opex and Capex were impressive. Management walked back its 10K/week production target and instead focused on hitting 7K, which could lead to lower production estimates from the Bulls for ’19-20. Cash improvements bode well for short term debt repayments, but we remain concerned about competition, LT capex needs & valuation.

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Link to Full Note
Consumer
Specialty Retail
China Risk Factors: We Rank China Risk Factors Across Our Sector...

THE COWEN INSIGHT

...& Analyze the Past to Inform the Future. China macroeconomic concerns, China tourism flow, & stepped-up enforcement on off-shore luxury purchases are significant 2H18 caution points. We analyzed: valuations in 2012 when China cracked down on gift giving practices, company diversification/strategy, & both China geographic and tourism exposure levels. From a stock perspective...

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Capital Goods/Industrials
Trinity Industries
Expect Volatility as Guidance is Examined

OUTPERFORM (1)

 Symbol | NYSE: TRN
---|---
Price Target | $47.00
Price (10/24/2018) | $33.54
Market Cap (MM) | $4,913.6

THE COWEN INSIGHT

The midpoint of 2019 RemainCo EPS guidance seems to imply 38% growth if we assume 2H18 RemainCo EPS exceeds 1H18 RemainCo EPS by a similar rate to that at which our current 2H18 rail businesses EBIT exceeds our 1H18 rail businesses EBIT. Guidance may be examined in other ways, not necessarily leading to uniform conclusions. We expect stock volatility and look for more clarity on the call.

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Capital Goods/Industrials
United Parcel Service
Looming Tariffs Overshadow Improving Peak Trends

MARKET PERFORM (2)

 Symbol | NYSE: UPS
---|---
Price Target | $128.00
Price (10/24/2018) | $107.93
Market Cap (MM) | $92,711.9

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<tr>
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<th>2017A</th>
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<td>$7.85</td>
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<td>$6.01</td>
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</table>

THE COWEN INSIGHT

We believe it is likely UPS’s experience during the peak shipping season will improve on a y/y basis as new sorting facilities come on line. US - China tariffs had a small impact on 3Q18 earnings, although uncertainty remains as we approach the January 1 tariffs. As a result, our 2019 EPS estimate moves slightly lower to $7.85 from $7.90 (consensus is $7.93).

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Health Care

Vertex

Q3 In-Line, Triple Data On Track For Q4

OUTPERFORM (1)

Symbol | NASDAQ: VRTX
Price Target | $200.00
Price (10/24/2018) | $163.09
Market Cap (MM) | $41,679.3

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<td>Prior</td>
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<td>Consensus</td>
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<td>$4.68</td>
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THE COWEN INSIGHT

VRTX reported Q3 CF franchise revenue of $784.5MM vs consensus of $781MM, non-GAAP EPS of $1.09 vs. consensus of $1.01, and reiterated 2018 guidance. Results from 2 Ph. III trials of VX-659 triples are on track for Q4 while data from ABBV’s FALCON trial confirm that its lead triple will not be competitive. We expect VRTX to have industry-leading top-line growth thru ’23 and it remains a top pick.

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Technology, Media & Telecom

Visa

V F4Q18: Steady Growth

OUTPERFORM (1)

Symbol | NYSE: V
Price Target | $164.00
Price (10/24/2018) | $134.26
Market Cap (MM) | $273,118.6

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<th>EPS $</th>
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<tr>
<td>Cowen</td>
<td>$4.61</td>
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<tr>
<td>Consensus</td>
<td>$4.61</td>
<td>$5.33</td>
<td>$6.19</td>
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THE COWEN INSIGHT

V reported F4Q results that were largely in-line with our estimates. The company provided FY19 guidance that dovetails with Street expectations - reflecting a continuation of double digit growth. We expect guidance to be greeted positively by investors. We are modestly increasing our forward estimates. We reiterate our $164 PT and Outperform rating.

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Technology, Media & Telecom

Xilinx

A Port In The Storm

MARKET PERFORM (2)

Symbol | NASDAQ: XLNX
Price Target | $81.00
Price (10/24/2018) | $69.04
Market Cap (MM) | $17,461.2

<table>
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<th>2020E</th>
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<tr>
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<td>Prior</td>
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<tr>
<td>Consensus</td>
<td>-</td>
<td>$3.28</td>
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THE COWEN INSIGHT

Xilinx reported a significant beat/raise as early 5G investments were the largest of multiple upside drivers. Net, Xilinx printed a near pitch-perfect quarter despite an ugly semis backdrop and we expect shares to react accordingly. Trading at a large premium to peers, however, we see risk/reward as balanced and await further signs of datacenter traction. Maintain Market Perform, $81 target.

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Link to Full Note
Macro Commentary Today

WRG Macro Commentary

WRG Medical Devices
Med Tech & Mid-Terms: Agencies Likely Still More Impactful than Congress

THE COWEN INSIGHT
Med tech is likely to have minimal legislative risk in 2019, regardless of the election outcome. The regulatory agencies (CMS/FDA) are more important to watch and we predict both will continue to take deregulatory actions of particular benefit to digital health and telemedicine.

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Link to Full Note

WRG Macro Commentary

WRG Washington Strategy
Washington Pressure Gauge: 2018 Policy Calendar One-Pager

THE COWEN INSIGHT
Midterms in 12 days.
Senate & House elections in almost different countries: rural v. suburban - geography is destiny this cycle.
Main NAFTA takeaway: tariffs worked & still in place.
25% tariff on autos & parts likely in Q4 - implementation next year - same with more China tariffs.

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Link to Full Note

Upcoming Conferences

POST-ELECTION POW-WOW
November 12-13, 2018 | Washington, D.C.

8TH ANNUAL ENERGY & NATURAL RESOURCES CONFERENCE
December 4-5, 2018 | New York, NY

5TH ANNUAL NETWORKING AND CYBERSECURITY SUMMIT
### Points Of Contact

<table>
<thead>
<tr>
<th>Product Management</th>
<th>Trading Desk</th>
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<tbody>
<tr>
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<td><strong>New York</strong>&lt;br&gt;646 562 1500</td>
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<tr>
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</tr>
<tr>
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Additionally, the complete preceding 12-month recommendations history related to recommendation in this research report is available at https://cowen.bluematrix.com/sellside/Disclosures.action

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Outperform (1): The stock is expected to achieve a total positive return of at least 15% over the next 12 months

Market Perform (2): The stock is expected to have a total return that falls between the parameters of an Outperform and Underperform over the next 12 months

Underperform (3): Stock is expected to achieve a total negative return of at least 10% over the next 12 months

Assumption: The expected total return calculation includes anticipated dividend yield

Cowen and Company Equity Research Rating Distribution

Distribution of Ratings/Investment Banking Services (IB) as of 09/30/18

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<td>63.44%</td>
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(a) Corresponds to “Outperform” rated stocks as defined in Cowen and Company, LLC’s equity research rating definitions. (b) Corresponds to “Market Perform” as defined in Cowen and Company, LLC’s equity research ratings definitions. (c) Corresponds to “Underperform” as defined in Cowen and Company, LLC’s equity research ratings definitions. Cowen and Company Equity Research Rating Distribution Table does not include any company for which the equity research rating is currently suspended or any debt security followed by Cowen Credit Research and Trading.

Note: “Buy”, “Hold” and “Sell” are not terms that Cowen and Company, LLC uses in its ratings system and should not be construed as investment options. Rather, these ratings terms are used illustratively to comply with FINRA regulation.
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