

Galapagos NV (GLPG)
Rating: Buy

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Thoughts Post C-Suite Investor Meetings

| Stock Data | | 08/16/2019 | |
|------------------------|--|------------|--|
| Price | | \$172.18 | |
| Exchange | | NASDAQ | |
| Price Target | | \$205.00 | |
| 52-Week High | | \$191.63 | |
| 52-Week Low | | \$85.00 | |
| Enterprise Value (M) | | \$3,115 | |
| Market Cap (M) | | \$9,439 | |
| Shares Outstanding (M) | | 54.8 | |
| 3 Month Avg Volume | | 167,073 | |
| Short Interest (M) | | 0.66 | |
| Balance Sheet Metrics | | | |
| Cash (M) | | \$6,324.2 | |
| Total Debt (M) | | \$0.0 | |
| Total Cash/Share | | \$115.36 | |

Cash (M): Pro forma cash and shares outstanding include the July 14, 2019, Gilead (GILD; not rated) R&D collaboration deal, which contains a \$3.95B upfront cash payment, and \$1.1B in an equity investment. Also, €1.4B that was last reported post 2Q19 earnings is included.

General: Currency used is roughly 1 Euro to \$1.11 US. Stock price is US\$ as on NASDAQ

| EPS (€) Diluted | | | |
|-----------------|---------|----------|-------|
| Full Year - Dec | 2018A | 2019E | 2020E |
| 1Q | €(0.73) | €(0.89)A | €0.52 |
| 2Q | €(0.42) | €(0.86)A | €0.49 |
| 3Q | €0.27 | €4.80 | €0.55 |
| 4Q | €0.27 | €4.78 | €0.65 |
| FY | €(0.56) | €8.52 | €2.21 |

| Revenue (€) | | | |
|-----------------|--------|--------|--------|
| Full Year - Dec | 2018A | 2019E | 2020E |
| 1Q | €44.8 | €40.9A | €149.0 |
| 2Q | €57.0 | €67.6A | €149.0 |
| 3Q | €103.2 | €415.7 | €154.8 |
| 4Q | €112.8 | €415.9 | €162.6 |
| FY | €317.8 | €940.0 | €615.3 |


Rinvoq label suggests agency inclined towards a flawed class-effect logic; filgotinib ADCOMM could deliver the ideal outcome.

We recently hosted Onno van de Stolpe, CEO, in a series of investor meetings. Among the myriad discussion points a key area of focus was on the likely label for Rinvoq [upadacitinib; Abbvie (ABBV; not rated)], duly unveiled by the agency on April 16, 2019, and its potential impact on filgotinib. The agency decision to invoke a DVT/PE-related black box warning for Rinvoq with a reference to Janus kinase inhibitors (JAK) presents as a significant departure from the norm. This potentially implies the base case assumption for filgotinib should reflect a similar scenario, albeit unjustified, in our view. We can pontificate on the lower than placebo rates of DVT/PE among the thousands of patients treated with filgotinib during the clinical trial process, which should in normal course lead to a cleaner label, but with the filgotinib labeling decision not expected until mid-2020, which assumes partner Gilead (GILD, not rated) pushes forward with a PRV, the current discussion on the FDA thought process is pure conjecture. This is one scenario where we believe management is likely to welcome an ADCOMM, which if successfully executed upon could translate into a label reflecting: (1) the 200 mg dose, which would make filgotinib the only JAKi approved at the highest dose; and (2) DVT/PE and malignancy-sparing black box, both of which could be commercially relevant differentiators, from our perch.

Ambitious plans for the \$6B cash: Toledo and beyond.

The Toledo platform remains the near-to-intermediate term driver for the company's discovery engine, now bolstered by the \$6B cash. Historically, Galapagos never identified a target that ameliorated all three IBD mouse models until Toledo. Interestingly, Toledo has provided multiple such hits. While GLPG3312, the first Toledo-targeting molecule, had pre-clinical tox issues, and is being limited to IBD, this would still translate into a \$150M upfront payment, should Gilead choose to opt in. The second Toledo molecule, GLPG3970 is being advanced broadly based on its selectivity, with first-in-human studies expected to commence over the near term. Note, management commentary suggests no near-to-intermediate term competition on the Toledo target for autoimmune diseases although, peers are investigating the target in oncology. In the future, Toledo-derived assets could supplant filgotinib in autoimmune diseases if tox issues are avoided. Note, more than 50% of research at Galapagos is focused on Toledo and given Gilead's involvement and cost sharing, Toledo is fully funded. Galapagos currently employs about 900 individuals of which about 400 are within research, and slightly more in development. The company is actively seeking to expand targets including RNA based technologies, but not necessarily RNAi or siRNA, and management is likely to be acquisitive if the program or platform offers the right synergies. Note, Gilead would have rights to the novel targets and acquisitions importantly, if the opportunity calls for a significant cash outlay, Gilead could come to the table. Galapagos currently has ongoing research initiatives in: hepB, metabolic indications as well as in the CNS, along with investments in additional assets targeting OA. While Galapagos is expected to ramp up research, R&D spend is unlikely to markedly exceed \$350M.

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Thoughts on GLPG1690. One potential concern voiced was that increased dosing of pirfenidone or nintedanib in the control arms could counter the decline in FVC leading to diminished clinical effect associated with GLPG1690. However, this is unlikely given the tolerability issues with pirfenidone and nintedanib and we expect higher than recommended dosing could lead to increased rates of patient drop off in the control cohorts. FRI analysis from the FLORA study remains a key basis for management confidence in the program, but FRI remains a no-go in the Phase 3 ISABELLA programs due to cost and agency reticence. Note, validation for GLPG1690 comes from Bristol-Myers (BMY; not rated) decision to pursue a new molecule targeting LPA1, downstream of GLPG1690's target, and Boehringer Ingelheim's (private) decision to in-license an autotaxin program despite passing on GLPG1690 two years ago. Per management, the enrollment in the ISABELLA programs are now accelerating and is currently ahead of schedule.

The August 15, 2019, EMA validation of filgotinib's marketing application starts the countdown. (1) in the EU, both dosages have been submitted for approval; (2) the price setting in Germany will be done by Gilead, and Galapagos will follow suit in other countries; (3) pricing of filgotinib is likely to be dependent on that of upadacitinib; (4) as is the norm, launch in Germany is quick, but France and Benelux could take up to a year; (5) management expects a robust launch in the EU with a prepped sales team and having meetings with prescribers in the EU; (6) a new head of commercial was recently hired by Gilead and she is ramping up the sales and marketing effort/force; and (7) lessons from filgotinib will translate to '1690 assuming a positive Phase 3 program with Galapagos covering the commercial launch in eight countries.

Prelude to the Gilead transaction. (1) The motivation for the collaboration rather than an acquisition came from the CEO's long stated intent of maintaining the innovation engine that may have been jeopardized following a potential buyout; (2) Gilead's new CEO was more receptive to Galapago's intent; (3) a willingness on the part of Galapagos to walk away from an initial offer based on the prospects of filgotinib, GLPG1690, '1972, and Toledo assets drove Gilead to propose the \$3.95B upfront and \$1B+ equity deal; (4) Galapagos would have accepted a lower upfront payment if it excluded the Toledo program, which was a potential no-go on the part of Gilead since it may have prompted Galapagos to committing the best human and technical resources to the Toledo platform at Gilead's detriment; and (5) given Galapagos' commitment to advance over 40+ clinical programs the company was actively seeking partners. For additional details, refer to *Gilead Opts for Decentralized R&D Model With a \$5.1B Collaboration; Target to \$205 From \$150*.

1H19 showcased the discovery platform; expecting data driven momentum to continue during 2H19. On the heels of: (1) FINCH 1 and 3 exceeding the Street's expectations (*May the Force Be With Filgotinib; Raising Target to \$150*); (2) successfully navigating the regulatory landscape, with a greenlight to proceed with the RA-related regulatory submissions (*MANTA May Not Have Been the FDA Mantra After All*); and (3) culminating in the largest and one of a kind R&D collaboration with Gilead [GILD; not rated], Galapagos' stock is up about 101%, handily outperforming its peers; the XBI is up about 20% on an YTD basis. With multiple Phase 2 and Phase 3 readouts along with 20-plus early-stage programs targeting various inflammation and fibrosis-related maladies, some of which leverages its Toledo platform, provides Galapagos with one of the broadest, yet focused small molecule programs in biotechnology, in our view. Hence, the investment community is likely to have plenty to talk about over the next 12 to 18 months, implying continued momentum for the stock into 2020, in our view.

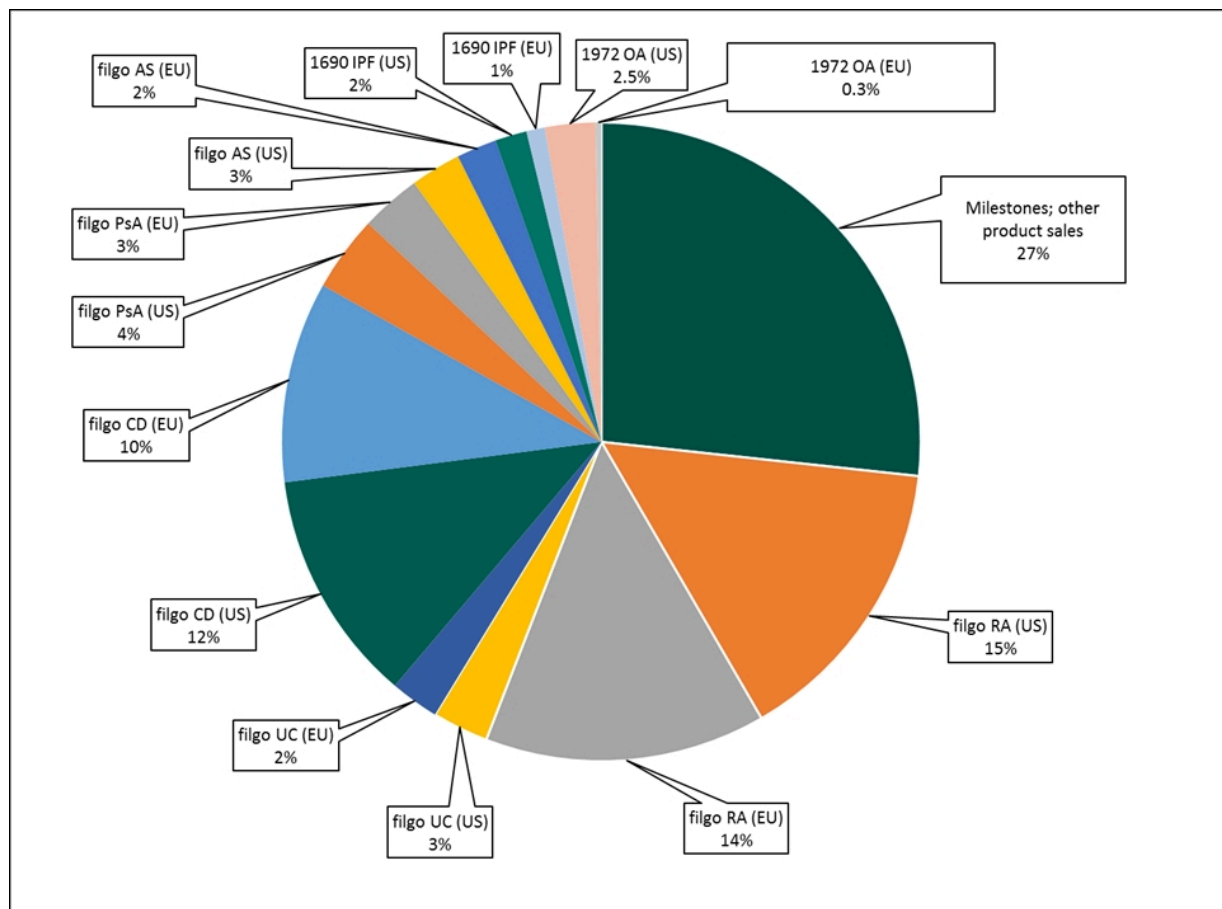
Potential stock moving events over the next to 12 to 18 months. These include: (1) RA-related MAA and NDA submissions are anticipated during 2H19; (2) POC readouts for filgotinib in Sjogrens and cutaneous lupus erythematosus and the initiation of a psoriatic arthritis study are expected in 2H19; (3) as highlighted in Exhibit 1, the UC Phase 3 program is now fully recruited with potential topline data just outside the 12-month window; (4) POC data from MOR106, a mAb targeting IL-17c for treatment of atopic dermatitis, from the ongoing IGUANA Phase 2 trial; (5) topline readout from Phase 2b ROCELLA study of the orally administered, potentially disease-modifying therapy for osteoarthritis GLPG1972, for an overview of the target and clinical progress to date refer to *ROCELLA Is Off to a Running Start; GLPG1972 Recap*; and (6) interim analysis from the Phase 3 ISABELLA 1 and 2 studies evaluating GLPG1690, an autotaxin inhibitor, after 25% of the enrolled patients have been followed for 12-months is anticipated during 1Q20, for a deeper dive refer to *IPF in Vogue With Multiple Phase 3's: Overview and Perspectives*.

Exhibit 1: Galapagos' Catalyst Calendar Includes Some Adds, With Some Pushback

| Program | Indication | Phase and Milestone | Timing | Impact on Stock |
|--------------|-------------------------------|----------------------------------|--------------------|-----------------|
| Filgotinib | Sjogren's | Phase 2 PoC topline | 2H19 | Modest |
| Filgotinib | Cutaneous Lupus Erythematosus | Phase 2 PoC topline | 2H19 | Modest |
| Filgotinib | Psoriatic Arthritis | Phase 3 Start | 2H19 | Limited |
| Filgotinib | Rheumatoid Arthritis | FDA, EMA filings for RA approval | 2H19 and 3Q19 | Modest |
| GLPG1205 | Idiopathic Pulmonary Fibrosis | PINTA Phase 2 recruited | 2H19 | Limited |
| GLPG1205 | Idiopathic Pulmonary Fibrosis | ACS Conference | 2H19 | Limited |
| GLPG1972 | Osteoarthritis | ROCELLA Phase 2b Topline | 2H20 | Significant |
| Mor106 | Atopic Dermatitis | Japan study start | 2H19 | Limited |
| '3970 | Inflammation | Phase 1 start | 2H19 | Limited |
| '3312 | Inflammatory Bowel Disease | PoC | Delayed Until 2H19 | Limited |
| '3312 | Inflammation | Topline data | 2H19 | Modest |
| '3667, '3970 | Inflammation | Phase 1 Start | 2H19 | Limited |
| Mor106 | Atopic Dermatitis | IGUANA Phase 2 topline | Delayed After 2H19 | Significant |
| '2534 | Atopic Dermatitis | Phase 1 start | Delayed Until 1H20 | Limited |
| '2534, '3121 | Inflammation | Topline data | Delayed After 2H19 | Modest |

Source: Galapagos Investor Presentation July 26, 2019, and H.C. Wainwright & Co. estimates.

Exhibit 2: Weighted Contribution of Individual Disease Segments to Target



Source: H.C. Wainwright & Co. estimates.

Valuation and risks to our investment thesis. Our 12-month price target on shares of Galapagos is \$205, which is derived from a 13-year DCF-based, sum-of-the-parts analysis. Our DCF is driven by: beta of 1.21, terminal growth rate of -3.0%,

risk premium of 4.93%, calculated WACC of 8.2%, and tax rate of 20% beginning in FY 2025. Filgotinib (69%), GLPG1690 and GLPG1972 (3% each) together make up 75% of our value, with the remainder derived from the probability-adjusted, filgotinib-associated milestone payments. For filgotinib, we assume POS in the range of: 80% for RA based on the FINCH 1 and 3 clinical updates released post close on March 28, 2019, 65% for UC, and 60% for CD, PsA and AS each, whereas for '1690 and '1972, we assign a 35% and 10% POS, respectively. Key risks include: emergence of safety concerns, clinical risks, regulatory risks, and financial risks. Furthermore, regulatory and commercial strategy for filgotinib is under the control of partner, Gilead, not an established player in autoimmune indications. Hence, Gilead may not be able to drive rapid adoption of filgotinib, especially if the overall profile is relatively undifferentiated from AbbVie's (ABBV; not rated) upadacitinib, in our view. Hence, our estimates could be negatively impacted if AbbVie successfully leverages its market positioning with Humira during the launch of upadacitinib, which is likely to be a year ahead of filgotinib. The next two value drivers for Galapagos are GLPG1690 and GLPG1972 programs, both of which are high-risk, high-reward programs given the checkered history of drug development of each target.

Valuation: Galapagos (GLPG) Discounted Cash Flow (DCF) Analysis

| | | Discounted Cash Flow Analysis | | | | | | | | | | | | | | TV |
|---|------------|------------------------------------|-------------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|----|
| | | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | | |
| Ticker | Galapagos | | | | | | | | | | | | | | | |
| Period | 2028E | | | | | | | | | | | | | | | |
| Beta est | 1.21 | | | | | | | | | | | | | | | |
| Risk-free rate (R _F)(10 yr yield) | 2.25% | | | | | | | | | | | | | | | |
| Risk premium (R _p) | 4.93% | | | | | | | | | | | | | | | |
| Cost of equity (KE) | 8.2% | | | | | | | | | | | | | | | |
| Cost of debt (K _D) | 0.0% | | | | | | | | | | | | | | | |
| Terminal growth rate | -3.0% | | | | | | | | | | | | | | | |
| Terminal value (% of total value) | 39.7% | | | | | | | | | | | | | | | |
| Shareholder equity | 10,785,274 | | | | | | | | | | | | | | | |
| Debt outstanding | 0 | | | | | | | | | | | | | | | |
| Total capital | 10,785,274 | | | | | | | | | | | | | | | |
| Equity/cap | 100.0% | | | | | | | | | | | | | | | |
| Debt/cap | 0.0% | | | | | | | | | | | | | | | |
| WACC (calculated) | 8.2% | | | | | | | | | | | | | | | |
| WACC (applied) | 8.2% | | | | | | | | | | | | | | | |
| Shares outstanding | 63,549 | | | | | | | | | | | | | | | |
| | | EBIT (000s €) | € 502,685 | € 137,026 | € 154,294 | € 341,396 | € 660,484 | € 889,462 | € 1,198,139 | € 1,687,540 | € 1,784,491 | € 1,853,679 | € 1,816,749 | € 1,841,482 | € 1,858,551 | |
| | | Tax rate | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | 20.0% | |
| | | EBIT*(1-t) | 502,555 | 137,026 | 154,294 | 341,396 | 660,484 | 889,462 | 958,511 | 1,350,032 | 1,427,593 | 1,482,943 | 1,453,399 | 1,473,185 | 1,486,841 | |
| | | Capital expenditures | (7,533) | (6,000) | (6,600) | (7,260) | (7,986) | (8,785) | (9,663) | (10,629) | (11,692) | (12,862) | (14,148) | (15,562) | (17,119) | |
| | | % growth | -27.5% | -20.4% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | 10.0% | |
| | | Depreciation | 11,153 | 12,000 | 12,600 | 13,230 | 13,362 | 13,496 | 13,631 | 13,767 | 13,905 | 14,044 | 14,184 | 14,326 | 14,469 | |
| | | % growth | 166.1% | 7.6% | 5.0% | 5.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | 1.0% | | |
| | | Change in non-cash working capital | (3,816) | (20,861) | (6,938) | (29,354) | (24,088) | (21,798) | (14,705) | (9,639) | (1,947) | 3,565 | 11,115 | 16,831 | 24,545 | |
| | | % growth | 87.6% | -446.7% | 66.7% | -323.1% | 17.9% | 9.5% | 32.5% | 34.5% | 79.8% | 283.1% | 211.8% | 51.4% | 45.8% | |
| | | Free cash flow to the firm | 525,057 | 175,887 | 180,431 | 391,241 | 705,920 | 933,541 | 996,510 | 1,384,067 | 1,455,137 | 1,506,284 | 1,470,616 | 1,486,243 | 1,493,884 | |
| | | Discount factor | 0.97 | 0.92 | 0.85 | 0.79 | 0.73 | 0.67 | 0.62 | 0.58 | 0.53 | 0.49 | 0.45 | 0.42 | 0.39 | |
| | | Present value of cash flows | 508,065 | 162,534 | 154,076 | 308,730 | 514,756 | 629,057 | 620,511 | 796,410 | 773,739 | 740,131 | 667,748 | 623,612 | 579,232 | |
| | | Value of firm | 11,731,131 | | | | | | | | | | | | | |
| | | Debt | 0 | | | | | | | | | | | | | |
| | | Value of equity | 11,731,131 | | | | | | | | | | | | | |
| | | Value per share (\$) | \$ 205.00 | | | | | | | | | | | | | |

Source: H.C. Wainwright & Co. estimates.

Cash Flow Statement

| Cash flows statement (€ in thousands, except per share data) | 2018A | 1Q19A | 2Q19A | 3Q19E | 4Q19E | 2019E | 1Q20E | 2Q20E | 3Q20E | 4Q20E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|--|
| Cash flows from Operating activities: | | | | | | | | | | | | | | | | | | | | | | | |
| Net gain (loss) | € (29,259) | € (48,656) | € (47,249) | € 297,438 | € 296,856 | € 498,389 | € 32,214 | € 30,464 | € 34,540 | € 40,808 | € 138,026 | € 155,144 | € 342,289 | € 661,421 | € 890,446 | € 959,338 | € 1,350,900 | € 1,428,504 | € 1,483,900 | € 1,454,404 | € 1,474,240 | € 1,487,948 | |
| Adjustments for non-cash transactions; and items to disclose under op cash flow | € 17,364 | € 4,007 | € 16,407 | € 5,750 | € 6,250 | € 32,414 | € 7,050 | € 7,550 | € 8,050 | € 8,550 | € 31,200 | € 34,410 | € 37,946 | € 41,310 | € 45,037 | € 49,165 | € 53,735 | € 58,795 | € 64,393 | € 70,588 | € 77,441 | € 85,020 | |
| Adjustment for items to disclose under investing and financing cash flows | (668) | (3) | 0 | 0 | 0 | (9) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Change in working capital other than deferred income | 19,922 | (2,294) | (13,624) | (2,000) | (2,000) | (19,919) | (2,500) | (2,500) | (2,500) | (2,500) | (10,000) | 3,122 | 8,493 | 17,151 | (7,556) | (9,384) | (12,160) | (12,758) | (13,204) | (13,062) | (13,265) | (13,430) | |
| Decrease in deferred income | (153,312) | (25,979) | (27,499) | (25,000) | (25,000) | (103,478) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Interest paid; and received, net | 3,495 | 1,238 | 2,000 | 500 | 500 | 4,238 | 650 | 650 | 650 | 650 | 2,600 | 2,860 | 3,146 | 3,461 | 3,807 | 4,187 | 4,606 | 5,067 | 5,573 | 6,131 | 6,744 | 7,418 | |
| Income taxes paid | (8) | (11) | (77) | 0 | 0 | (88) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Net cash provided (used) by Operating activities | (142,466) | (71,698) | (70,042) | 276,688 | 276,606 | 411,554 | 37,414 | 36,164 | 40,740 | 47,508 | 161,826 | 195,535 | 391,874 | 723,342 | 931,733 | 1,003,306 | 1,397,082 | 1,479,608 | 1,540,663 | 1,518,061 | 1,545,159 | 1,566,956 | |
| Cash flows from Investing activities: | | | | | | | | | | | | | | | | | | | | | | | |
| Purchases of property and equipment | (10,392) | (2,103) | (2,930) | (1,250) | (1,250) | (7,533) | (1,500) | (1,500) | (1,500) | (1,500) | (6,000) | (6,600) | (7,280) | (7,968) | (8,785) | (9,663) | (10,629) | (11,692) | (12,862) | (14,148) | (15,562) | (17,119) | |
| Purchase of and expenditure in intangible fixed assets | (3,325) | (1,201) | (2,334) | (750) | (750) | (5,039) | (1,000) | (1,000) | (1,000) | (1,000) | (4,000) | (4,200) | (4,410) | (4,631) | (4,862) | (5,105) | (5,360) | (5,626) | (5,910) | (6,205) | (6,516) | (6,841) | |
| Proceeds from disposal of p.p. and e | 1 | 1 | 1 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Decrease in restricted cash | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Acquisition of available-for-sale financial assets | (4,559) | (177) | 0 | 0 | 0 | (177) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Proceeds from sale of available-for-sale financial assets | 2,361 | 82 | 0 | 0 | 0 | 82 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Net cash provided (used) by Investing activities | (15,914) | (3,398) | (5,263) | (2,000) | (2,000) | (12,661) | (2,500) | (2,500) | (2,500) | (2,500) | (10,000) | (10,800) | (11,670) | (12,617) | (13,647) | (14,768) | (15,990) | (17,321) | (18,771) | (20,353) | (22,078) | (23,960) | |
| Cash flows from Financing activities: | | | | | | | | | | | | | | | | | | | | | | | |
| Repayment of obligations under finance leases and other debts | (5) | (1,248) | (896) | 0 | 0 | (2,144) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Proceeds from capital and share premium increases, gross amount | 296,188 | 0 | 0 | 990,991 | 0 | 990,991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Issue costs paid related to capital and share premium increases | (15,964) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Proceeds from capital and share premium increases from exercise of warrants | 7,657 | 3,481 | 4,324 | 0 | 0 | 7,805 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Net cash provided (used) by Financing activities | 287,876 | 2,233 | 3,428 | 990,991 | 0 | 996,652 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Effect of exchange rate differences on cash and cash equivalents | 10,089 | 4,958 | (3,101) | 0 | 0 | 1,867 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Net increase (decrease) in Cash/Cash Equivalents | 139,585 | (67,895) | (74,978) | 1,265,679 | 274,606 | 1,397,412 | 34,914 | 33,664 | 38,240 | 45,008 | 151,826 | 184,735 | 380,204 | 710,726 | 918,087 | 988,538 | 1,381,092 | 1,462,287 | 1,521,892 | 1,497,708 | 1,523,081 | 1,542,996 | |
| Cash & Cash Equivalents at Beginning of Period | 1,151,211 | 1,290,796 | 1,222,901 | 1,147,923 | 2,413,602 | 1,290,796 | 2,888,208 | 2,723,122 | 2,756,786 | 2,795,026 | 2,888,208 | 2,840,034 | 3,024,769 | 3,404,973 | 4,115,698 | 5,033,785 | 6,022,322 | 7,403,415 | 8,965,702 | 10,387,594 | 11,885,301 | 13,408,382 | |
| Cash & Cash Equivalents at End of Period | € 1,290,796 | € 1,222,901 | € 1,147,923 | € 2,413,602 | € 2,688,208 | € 2,688,208 | € 2,723,122 | € 2,756,786 | € 2,795,026 | € 2,840,034 | € 2,840,034 | € 3,024,769 | € 3,404,973 | € 4,115,698 | € 5,033,785 | € 6,022,322 | € 7,403,415 | € 8,965,702 | € 10,387,594 | € 11,885,301 | € 13,408,382 | € 14,951,378 | |

Source: H.C. Wainwright & Co. estimates.

Balance Sheet

| Balance sheet | 2018A | 2019A | 2019A | 3Q19E | 4Q19E | 2019E | 1Q20E | 2Q20E | 3Q20E | 4Q20E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E | |
|---|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|--|
| (€ in thousands, except per share data) | | | | | | | | | | | | | | | | | | | | | | | |
| Assets | | | | | | | | | | | | | | | | | | | | | | | |
| Current assets: | | | | | | | | | | | | | | | | | | | | | | | |
| Cash and cash equivalents | € 1,290,796 | € 1,222,901 | € 1,147,923 | € 2,413,602 | € 2,688,208 | € 2,688,208 | € 2,723,122 | € 2,756,786 | € 2,795,026 | € 2,840,034 | € 2,840,034 | € 3,024,769 | € 3,404,973 | € 4,115,698 | € 5,033,785 | € 6,022,323 | € 7,403,415 | € 8,865,702 | € 10,387,594 | € 11,885,301 | € 13,408,382 | € 14,951,378 | |
| Trade and other receivables | 18,609 | 15,347 | 42,067 | 43,067 | 44,067 | 44,067 | 45,317 | 46,567 | 47,817 | 49,067 | 49,067 | 55,310 | 61,865 | 68,748 | 76,147 | 84,067 | 92,507 | 101,467 | 110,947 | 120,947 | 131,467 | 142,507 | |
| Current R&D incentives receivables | 11,203 | 11,645 | 11,644 | 12,644 | 13,644 | 13,644 | 14,894 | 16,144 | 17,394 | 18,644 | 18,644 | 24,887 | 31,442 | 38,325 | 45,208 | 52,091 | 58,974 | 65,857 | 72,740 | 79,623 | 86,506 | 93,389 | |
| Current restricted cash | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Other current assets | 8,243 | 9,351 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | 6,970 | |
| Total current assets | 1,328,851 | 1,259,244 | 1,206,604 | 2,476,283 | 2,752,889 | 2,752,889 | 2,790,303 | 2,826,467 | 2,862,207 | 2,914,715 | 2,914,715 | 3,111,936 | 3,505,250 | 4,229,742 | 5,193,165 | 6,238,005 | 7,692,056 | 9,230,689 | 10,832,002 | 12,408,084 | 14,010,761 | 15,634,336 | |
| Intangible assets | 3,632 | 6,497 | 7,191 | 7,441 | 7,691 | 7,691 | 8,141 | 8,591 | 9,041 | 9,491 | 9,491 | 11,381 | 13,366 | 15,449 | 17,637 | 19,934 | 22,347 | 24,879 | 27,539 | 30,331 | 33,263 | 36,342 | |
| Property, plant and equipment, net | 23,137 | 49,542 | 51,180 | 49,680 | 48,180 | 48,180 | 46,680 | 45,180 | 43,680 | 42,180 | 42,180 | 36,180 | 30,210 | 24,834 | 20,122 | 16,155 | 13,017 | 10,804 | 9,622 | 9,585 | 10,821 | 13,471 | |
| Deferred tax assets | 2,514 | 2,511 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | 2,516 | |
| Non-current R&D incentives receivables | 73,443 | 76,029 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | 82,644 | |
| Other non-current assets | 7,319 | 6,377 | 5,713 | 5,713 | 5,713 | 5,713 | 5,713 | 5,713 | 5,713 | 5,713 | 5,713 | 11,113 | 18,948 | 23,255 | 30,080 | 37,454 | 45,459 | 54,119 | 63,506 | 73,681 | 84,720 | 95,700 | |
| Total assets | 1,439,496 | 1,400,200 | 1,357,848 | 2,624,277 | 2,899,633 | 2,899,633 | 2,935,997 | 2,971,111 | 3,010,801 | 3,057,259 | 3,057,259 | 3,255,779 | 3,650,934 | 4,378,441 | 5,346,164 | 6,396,718 | 7,858,038 | 9,405,651 | 11,017,827 | 12,606,841 | 14,224,726 | 15,866,009 | |
| Liabilities and stockholders' equity | | | | | | | | | | | | | | | | | | | | | | | |
| Current liabilities: | | | | | | | | | | | | | | | | | | | | | | | |
| Finance lease liabilities | 0 | 4,580 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | 5,141 | |
| Trade and other payables | 68,928 | 69,880 | 86,216 | 86,216 | 86,216 | 86,216 | 86,216 | 86,216 | 86,216 | 86,216 | 86,216 | 101,824 | 123,428 | 154,345 | 192,125 | 239,043 | 299,842 | 363,630 | 429,648 | 494,960 | 561,291 | 628,440 | |
| Current tax payable | 1,175 | 1,168 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | 1,031 | |
| Current deferred income | 149,801 | 123,822 | 96,325 | 71,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | 46,325 | |
| Total current liabilities | 219,904 | 199,450 | 188,713 | 163,713 | 138,713 | 138,713 | 138,713 | 138,713 | 138,713 | 138,713 | 138,713 | 154,321 | 175,925 | 206,842 | 244,622 | 291,540 | 352,339 | 416,127 | 482,145 | 547,457 | 613,788 | 680,937 | |
| Pension liabilities | 3,764 | 3,851 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | 3,939 | |
| Other non-current liabilities | 1,579 | 20,409 | 21,829 | 22,329 | 22,829 | 22,829 | 23,479 | 24,129 | 24,779 | 25,429 | 25,429 | 28,289 | 31,435 | 34,896 | 38,702 | 42,890 | 47,496 | 52,562 | 58,136 | 64,266 | 71,010 | 78,428 | |
| Non-current deferred income | 0 | 735 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Total liabilities | 225,247 | 224,445 | 214,481 | 189,981 | 165,481 | 165,481 | 166,131 | 166,781 | 167,431 | 168,081 | 168,081 | 186,549 | 211,299 | 245,676 | 287,263 | 338,369 | 403,774 | 472,629 | 544,220 | 615,662 | 688,737 | 763,304 | |
| Total stockholders' equity | 1,214,249 | 1,175,755 | 1,143,367 | 2,434,296 | 2,734,152 | 2,734,152 | 2,769,866 | 2,804,330 | 2,843,370 | 2,889,178 | 2,889,178 | 3,063,821 | 3,428,400 | 4,115,222 | 5,034,535 | 6,026,599 | 7,414,518 | 8,884,817 | 10,415,816 | 11,923,211 | 13,456,882 | 15,011,717 | |
| Share capital | 236,540 | 237,348 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | 238,475 | |
| Share premium account | 1,277,780 | 1,280,452 | 1,283,650 | 2,281,141 | 2,286,141 | 2,286,141 | 2,295,941 | 2,303,641 | 2,312,141 | 2,321,141 | 2,321,141 | 2,357,441 | 2,397,371 | 2,441,294 | 2,489,609 | 2,542,756 | 2,601,218 | 2,665,525 | 2,736,264 | 2,814,076 | 2,899,670 | 2,993,622 | |
| Other reserves | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | (735) | |
| Translation differences | (1,557) | (1,290) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | (1,505) | |
| Accumulated losses | (297,779) | (340,920) | (376,518) | (63,080) | 209,776 | 209,776 | 237,990 | 264,454 | 294,994 | 331,802 | 331,802 | 470,145 | 794,794 | 1,437,693 | 2,308,690 | 3,247,607 | 4,577,068 | 5,983,056 | 7,443,317 | 8,872,900 | 10,321,077 | 11,781,660 | |
| Total liabilities and stockholders' equity | € 1,439,496 | € 1,400,200 | € 1,357,848 | € 2,624,277 | € 2,899,633 | € 2,899,633 | € 2,935,997 | € 2,971,111 | € 3,010,801 | € 3,057,259 | € 3,057,259 | € 3,250,370 | € 3,639,699 | € 4,360,888 | € 5,321,798 | € 6,364,967 | € 7,818,292 | € 9,357,445 | € 10,960,035 | € 12,538,873 | € 14,145,719 | € 15,775,022 | |

Source: H.C. Wainwright & Co. estimates.

Cash Outlook, Ratio Analysis, and Enterprise Value

| CASH QUICK LOOK : | 2018A | 1Q19A | 2Q19A | 3Q19E | 4Q19E | 2019E | 1Q20E | 2Q20E | 3Q20E | 4Q20E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E |
|--|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|--------------|
| Cash burn in period (cash from operations) | € 362,654 | € 94,161 | € 111,957 | € 115,250 | € 116,000 | € 437,368 | € 117,000 | € 118,750 | € 120,500 | € 122,000 | € 478,250 | € 448,388 | € 477,968 | € 494,976 | € 513,922 | € 535,081 | € 546,257 | € 557,836 | € 569,837 | € 582,278 | € 595,182 | € 608,568 |
| Total cash and cash equivalents | € 1,290,796 | € 1,222,901 | € 1,147,923 | € 2,413,602 | € 2,688,208 | € 2,688,208 | € 2,723,122 | € 2,756,786 | € 2,795,026 | € 2,840,034 | € 2,840,034 | € 3,024,760 | € 3,404,973 | € 4,115,698 | € 5,033,785 | € 6,022,323 | € 7,403,415 | € 8,865,702 | € 10,387,594 | € 11,885,301 | € 13,408,382 | € 14,951,378 |
| Periods of cash remaining | 3.5 yrs | 13.0 qrs | 10.5 qrs | 21.0 qrs | 23.0 qrs | 6.0 yrs | 23.5 qrs | 23.0 qrs | 23.0 qrs | 23.5 qrs | 6.0 yrs | 6.5 yrs | 7.0 yrs | 8.5 yrs | 10.0 yrs | 11.5 yrs | 13.5 yrs | 16.0 yrs | 18.0 yrs | 20.5 yrs | 22.5 yrs | 24.5 yrs |
| Ratio analysis | 2018A | 1Q19A | 2Q19A | 3Q19E | 4Q19E | 2019E | 1Q20E | 2Q20E | 3Q20E | 4Q20E | 2020E | 2021E | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E | 2031E |
| EBIT | (44,809) | (53,242) | (44,367) | 300,438 | 299,856 | 502,685 | 31,964 | 30,214 | 34,290 | 40,558 | 137,026 | 154,294 | 341,396 | 660,484 | 889,462 | 1,198,139 | 1,687,540 | 1,784,491 | 1,853,679 | 1,816,749 | 1,841,482 | 1,858,551 |
| EBITDA | (40,618) | (50,484) | (41,472) | 303,188 | 302,606 | 513,838 | 34,964 | 33,214 | 37,290 | 43,558 | 149,026 | 166,894 | 354,626 | 673,646 | 902,957 | 1,211,770 | 1,701,307 | 1,796,396 | 1,867,723 | 1,830,933 | 1,855,808 | 1,873,020 |
| EBITDA % of Sales | -13% | -123% | -61% | 73% | 73% | 55% | 23% | 22% | 24% | 27% | 24% | 25% | 39% | 58% | 63% | 69% | 69% | 69% | 69% | 69% | 69% | 69% |
| EV/EBITDA multiple | (72x) | (88x) | (122x) | 25x | 24x | 13x | 207x | 217x | 193x | 165x | 48x | 42x | 19x | 9x | 6x | 3x | 2x | 1x | (0x) | (1x) | (2x) | (3x) |
| Gross Profit Margin | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| OpMargin | -14% | -130% | -66% | 72% | 72% | 53% | 21% | 20% | 22% | 25% | 22% | 23% | 38% | 52% | 57% | 62% | 68% | 69% | 69% | 68% | 68% | 68% |
| Net Operating Profit After Tax (NOPAT) | (44,858) | (53,310) | (44,428) | 300,438 | 299,856 | 502,556 | 31,964 | 30,214 | 34,290 | 40,558 | 137,026 | 154,294 | 341,396 | 660,484 | 889,462 | 958,305 | 1,349,815 | 1,427,365 | 1,482,704 | 1,453,148 | 1,472,921 | 1,486,564 |
| Free Cash Flow (FCF) | (152,858) | (73,801) | (72,972) | 275,438 | 275,356 | 404,021 | 35,914 | 34,664 | 39,240 | 46,008 | 155,826 | 188,935 | 384,614 | 715,356 | 922,949 | 993,643 | 1,386,452 | 1,467,915 | 1,527,801 | 1,503,913 | 1,529,596 | 1,549,837 |
| Book per share | € 23.25 | € 21.53 | € 20.86 | € 39.27 | € 44.02 | € 46.74 | € 44.51 | € 44.97 | € 45.51 | € 46.15 | € 46.20 | € 48.89 | € 54.60 | € 65.41 | € 79.86 | € 95.40 | € 117.14 | € 140.09 | € 163.90 | € 187.25 | € 210.91 | € 234.81 |
| Net cash per share | € 24.72 | € 22.39 | € 20.94 | € 38.94 | € 43.20 | € 45.95 | € 43.76 | € 44.21 | € 44.74 | € 45.37 | € 45.41 | € 48.27 | € 54.23 | € 65.41 | € 79.85 | € 95.34 | € 116.97 | € 139.79 | € 163.46 | € 186.65 | € 210.15 | € 233.87 |
| Return on assets (ROA) | -2% | -3% | -3% | 11% | 10% | 17% | 1% | 1% | 1% | 1% | 5% | 5% | 9% | 15% | 17% | 15% | 17% | 15% | 13% | 12% | 10% | 9% |
| Return on equity (ROE) | -2% | -4% | -4% | 12% | 11% | 16% | 1% | 1% | 1% | 1% | 5% | 5% | 10% | 16% | 18% | 16% | 18% | 14% | 12% | 11% | 10% | 10% |
| Current ratio | 6.04 | 6.31 | 6.40 | 15.13 | 19.85 | 19.85 | 20.12 | 20.38 | 20.67 | 21.01 | 21.01 | 20.17 | 19.92 | 20.45 | 21.23 | 21.40 | 21.83 | 22.18 | 22.47 | 22.66 | 22.83 | 22.96 |
| Enterprise Value (MC + Total Debt - Cash) | 2,916,600 | 4,451,576 | 5,071,758 | 7,503,446 | 7,248,674 | 6,671,472 | 7,233,634 | 7,219,884 | 7,201,597 | 7,176,582 | 7,166,605 | 7,001,884 | 6,641,733 | 5,951,101 | 5,053,147 | 4,084,783 | 2,723,905 | 1,281,873 | (219,723) | (1,697,095) | (3,199,799) | (4,722,378) |
| Market Cap (MC) | 4,207,396 | 5,674,477 | 6,219,681 | 9,917,048 | 9,936,882 | 9,359,680 | 9,956,756 | 9,976,669 | 9,996,622 | 10,016,616 | 10,006,639 | 10,026,652 | 10,046,706 | 10,066,799 | 10,086,933 | 10,107,107 | 10,127,321 | 10,147,575 | 10,167,871 | 10,188,206 | 10,208,583 | 10,229,000 |
| Current Share price | € 160.00 | | | | | | | | | | | | | | | | | | | | | |

Source: H.C. Wainwright & Co. estimates.

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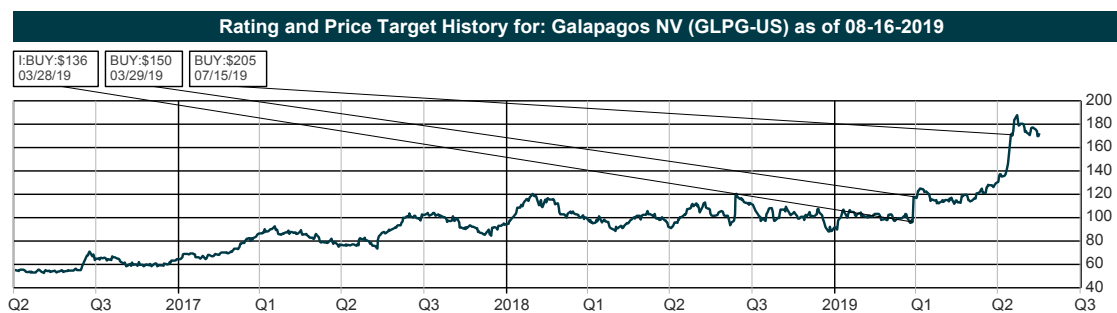
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Market Perform (Neutral): The common stock of the company is expected to mimic the performance of a passive index comprised of all the common stock of companies within the same sector.

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| Ratings | Count | Percent | IB Service/Past 12 Months | |
|--------------|------------|-------------|---------------------------|---------------|
| | | | Count | Percent |
| Buy | 344 | 91.98% | 120 | 34.88% |
| Neutral | 28 | 7.49% | 5 | 17.86% |
| Sell | 0 | 0.00% | 0 | 0.00% |
| Under Review | 2 | 0.53% | 0 | 0.00% |
| Total | 374 | 100% | 125 | 33.42% |

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