

# Galapagos (GLPG NA)

## No Need to Flinch Ahead of FINCH; Should Reassure on Filgotinib's Potential

### Key Takeaway

**Ahead of filgotinib FINCH-2 data, likely early-3Q, we are optimistic efficacy will be in line with other JAKis, but believe its potentially superior safety profile could be a key differentiator, driving uptake despite likely being fourth to market. FINCH-2 success would also provide positive read-through to ongoing Phase III IBD studies, cementing confidence in multi-blockbuster potential. Conversely, any safety signal would be badly received, in our view.**

**Upcoming filgotinib data could demonstrate differentiated profile:** FINCH-2 data evaluating filgotinib in rheumatoid arthritis (RA) patients post-biologics is expected imminently, and is the first of three Phase III filgotinib studies in RA. Safety will be a focus, notably thrombotic events for which we remain optimistic filgotinib could be best-in-class. We think filgotinib's high JAK1 selectivity could be differentiating, since it: (1) does not increase platelets, thus potentially less DVT risk; and, (2) does not decrease haemoglobin or lymphocyte levels, so potentially less risk of anaemia and infections. Since filgotinib is likely to be the fourth JAKi to market, a clean safety profile could help drive use, in our view. For efficacy by the ACR20 primary endpoint we view placebo-adjusted 20-25% for low dose and 25-30% for high dose to be positive. FINCH-1 and -3 data during 2019E could enable RA launches by YE20E with partner Gilead (Buy) - *see the separate report by analyst M. Yee today.*

**Multi-blockbuster potential:** We forecast \$6bn WW peak sales, with \$3bn in RA, \$600m in Crohn's disease, \$400m in ulcerative colitis, and a \$2bn cumulative contribution for other indications, for c.€65 per share NPV with a 65% probability of success. 4Q18E Phase II ankylosing spondylitis (TORTUGA study) data and then results in Sjogren's syndrome, uveitis and forms of lupus could further confirm our view of the broad commercial potential.

**CF remains acutely in focus:** GLPG is reviewing the future of its cystic fibrosis (CF) alliance with AbbVie after the pharma decided not to pursue the second triple, which we believe triggered a breakdown in the relationship. Initial Phase Ib FALCON data from the first triple are expected in 3Q18E. We still ascribe €15/share NPV to CF at 30% probability of \$3bn peak sales.

**Pipeline rightfully gaining attention:** Phase III ISABELA studies of GLPG1690 in lung fibrosis (IPF) are expected to begin 2H18E. We forecast \$850m WW '1690 peak sales after 2022E launch. The Phase II trial of GLPG1972 has initiated as a unique MoA for the unmet need in osteoarthritis, with GLPG retaining all US rights.

EUR	Prev.	2017A	Prev.	2018E	Prev.	2019E	Prev.	2020E
Rev. (MM)	--	155.9	189.4	190.6	219.7	222.0	239.5	244.7
EV/Rev		18.8x		15.4x		13.2x		12.0x
EBIT (MM)	--	(89.8)	(128.1)	(126.9)	(169.1)	(166.7)	(157.8)	(152.7)
EV/EBIT		NM		NM		NM		NM
Cash Position	--	1,151.2	931.8	928.6	691.8	687.3	500.7	499.1
<b>EPS</b>								
FY Dec	--	(2.34)	(2.60)	(2.57)	(3.14)	(3.09)	(2.91)	(2.81)
FY P/E		NM		NM		NM		NM
USD	Prev.	2017A	Prev.	2018E	Prev.	2019E	Prev.	2020E
FY Dec	--	(2.64)	(3.16)	(3.05)	(3.79)	(3.60)	(3.52)	(3.27)

**BUY**

Price target €115.00

Price €78.76^

ADR Price target \$134.00

(from \$139.00)

ADR Price \$92.05^

Bloomberg BRU: GLPG NA

Bloomberg NASDAQ: GLPG

### Financial Summary

Net Debt (MM):	(€1,108.2)
Long-Term Debt (MM):	€0.0
Cash & ST Invest. (MM):	€1,108.2

### Market Data

52 Week Range:	€98.82 - €61.88
Total Entprs. Value (MM):	NM
Market Cap. (MM):	€4,040.4
Shares Out. (MM):	51.3
Float (MM):	38.9
Avg. Daily Vol.:	428,032

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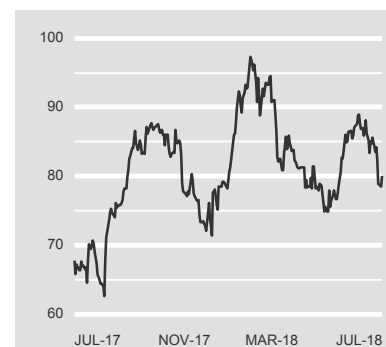
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### Price Performance



^Prior trading day's closing price unless otherwise noted.

## Scenarios

### Base Case

- Lead product filgotinib underpins much of our valuation and remains the focus. We are encouraged by its competitive profile in the Phase IIb DARWIN arthritis (RA) studies and Phase II FITZROY Crohn's trial. Partner Gilead should maximise its commercial potential.
- Numerous other pipeline programmes could also crystallise value via possible milestones from existing alliances or new deals, in particular in cystic fibrosis, lung fibrosis (IPF), and osteoarthritis.
- Price Target €115/\$134 per share/ADS largely comprising filgotinib, cystic fibrosis, GLPG1690 and GLPG1972 NPVs plus Net Cash.

### Upside Scenario

- Successful Phase III trials for filgotinib in RA could add at least €15/share, with positive data in Crohn's and ulcerative colitis potentially adding c.€10/share
- Successful clinical progress with both the CF potentiator and correctors in a triple combination could add €5/share.
- Positive Phase III ISABELA results for GLPG1690 in idiopathic pulmonary fibrosis could add around €18/share.
- These potential catalysts could boost our NPV derived Price Target to c.€165/\$192 per share/ADS. Incremental pharma deals or alliances could provide further upside.

### Downside Scenario

- Efficacy and/or safety concerns in the filgotinib Phase III RA trials could remove at least €50/share from our valuation.
- Efficacy and/or safety concerns in the filgotinib Phase III Crohn's or ulcerative colitis trials could remove at least €15/share from our valuation.
- Clinical setbacks or delays in cystic fibrosis could remove €15/share.
- Efficacy or safety concerns for GLPG1690 in IPF could remove at least €11/share
- These setbacks could reduce our NPV derived Price Target to c.€28/\$33 per share/ADS.

## Investment Thesis / Where We Differ

- The c.€1.11bn Cash at 31 March 2018 should be more than sufficient to fund operations for the foreseeable future. Our cash burn forecasts exclude potential upsides from incremental deals.
- If successfully developed, Galapagos could commercialise GLPG1690 itself for the Orphan Disease IPF, which could provide a potentially lucrative long-term opportunity.

## Catalysts

- Initial Phase Ib FALCON results from the first CF triple combination around 3Q18E and a second triple entering the clinic
- Phase III FINCH-2 RA results during 3Q18E and Phase II TORTUGA data in ankylosing spondylitis by YE18E
- GLPG1690 advancing into Phase III ISABELA trials in IPF during 2H18E

## Long Term Analysis

### Long Term Financial Model Drivers

2017-22E Revenue CAGR	+29%
2017 Net Cash (€m)	1,151
2018E Net Cash (€m)	929
2019E Net Cash (€m)	687

## Reiterate Buy with €115 PT

**Lead product filgotinib underpins the majority of our €115/share sum-of-the-parts valuation and remains the focus for investors. Gilead licensed global rights in December 2015 providing a partner to maximise the drug's commercial potential, after AbbVie elected to opt-out in favour of prioritising its own JAK inhibitor upadacitinib. We are encouraged by filgotinib's competitive profile based on the Phase IIb DARWIN rheumatoid arthritis (RA) clinical data, with results from the Phase II FITZROY trial also suggesting the drug is effective for inflammatory bowel disease (IBD). We forecast \$6bn global blockbuster potential largely comprising \$3bn in RA. The cystic fibrosis (CF) collaboration with AbbVie should provide an abundance of catalysts for the stock as the first patient study of a triple combo reports initial data 3Q18E and updates are provided on the second triple combo plus the status of the alliance, which is currently under review. GLPG1690 for lung fibrosis (IPF) should enter pivotal trials shortly and could have significant commercial potential, with GLPG1205 nearing Phase II and GLPG3499 in Phase I for the same indication. GLPG1972 with partner Servier (private) for osteoarthritis could also be an underappreciated Phase II asset, in our view. Numerous other pipeline programmes could also crystallise value via possible milestones from existing alliances or new deals, and potentially drive positive share price momentum.**

### Filgotinib first Phase III data soon

Selective JAK1 inhibitor filgotinib promises to be a safe and convenient oral treatment for rheumatoid arthritis (RA). Encouraging Phase II data in Crohn's disease (CD) suggest the drug could also have potential in IBD, perhaps a greater unmet medical need albeit a smaller eligible patient population. Multiple proof-of-concept studies in other indications are ongoing. Compared to currently approved biologic agents such as TNFs (e.g. Humira), filgotinib is administered orally, targets JAK1 specifically, and has a rapid onset, sustained response and potential for monotherapy use.

- **Peak sales forecast:** \$6bn with \$3bn in RA, \$600m in CD, \$400m in ulcerative colitis (UC), and a \$2bn cumulative contribution for other indications
- **Valuation:** c.€65 per share with a 65% probability of success
- **Next news flow:** Results from the Phase III FINCH-2 study in RA during 3Q18E, and Phase II data in ankylosing spondylitis (TORTUGA study) and possibly in Sjogren's syndrome by YE18-2019E

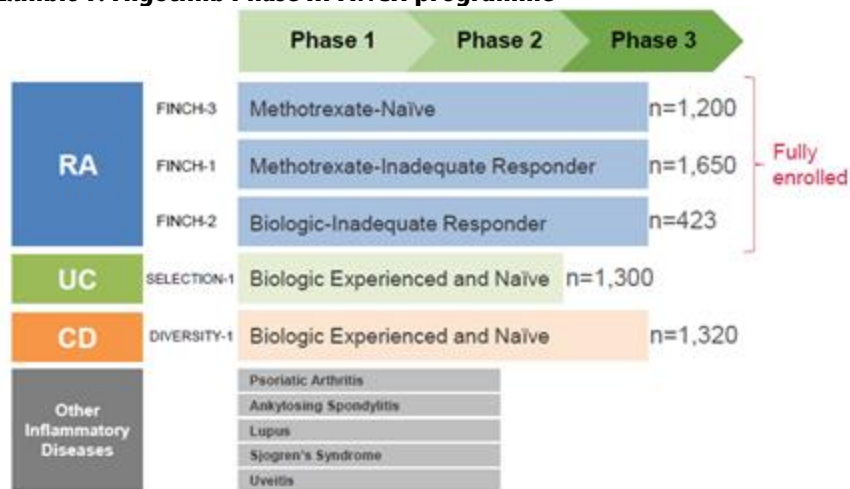
#### **FINCH-2 data imminent; first of three Phase III studies**

In August 2016, Galapagos and partner Gilead (GILD, \$71, Buy) initiated the global Phase III RA programmes (FINCH-1, -2 and -3) evaluating 100mg and 200mg once daily (QD) doses of filgotinib in early stage to biologic-experienced patients.

- **FINCH-1:** 52 week, randomised, placebo- and adalimumab-controlled (Humira) study in combination with methotrexate (MTX) evaluating 1,650 patients who have had an inadequate response to MTX (conventional disease-modifying anti-rheumatic drug; cDMARD). Recruitment completed in late April 2018, with top-line data expected around 1H19E (including the primary endpoint of ACR20 at week 12).
- **FINCH-2:** 24 week, randomised, placebo-controlled study evaluating filgotinib in c.430 patients who are on an existing cDMARD and have previously failed a biologic. Recruitment completed in early-2018, with top-line data expected in 3Q18E (including the primary endpoint of ACR20 at week 12).

- **FINCH-3:** 52 week, randomised study in c.1,250 MTX-naïve patients evaluating filgotinib +/- MTX. Recruitment completed in early May 2018, with top-line data expected in 1H19E (including the primary endpoint of ACR20 at week 24).

### Exhibit 1: Filgotinib Phase III FINCH programme



Source: Company reports

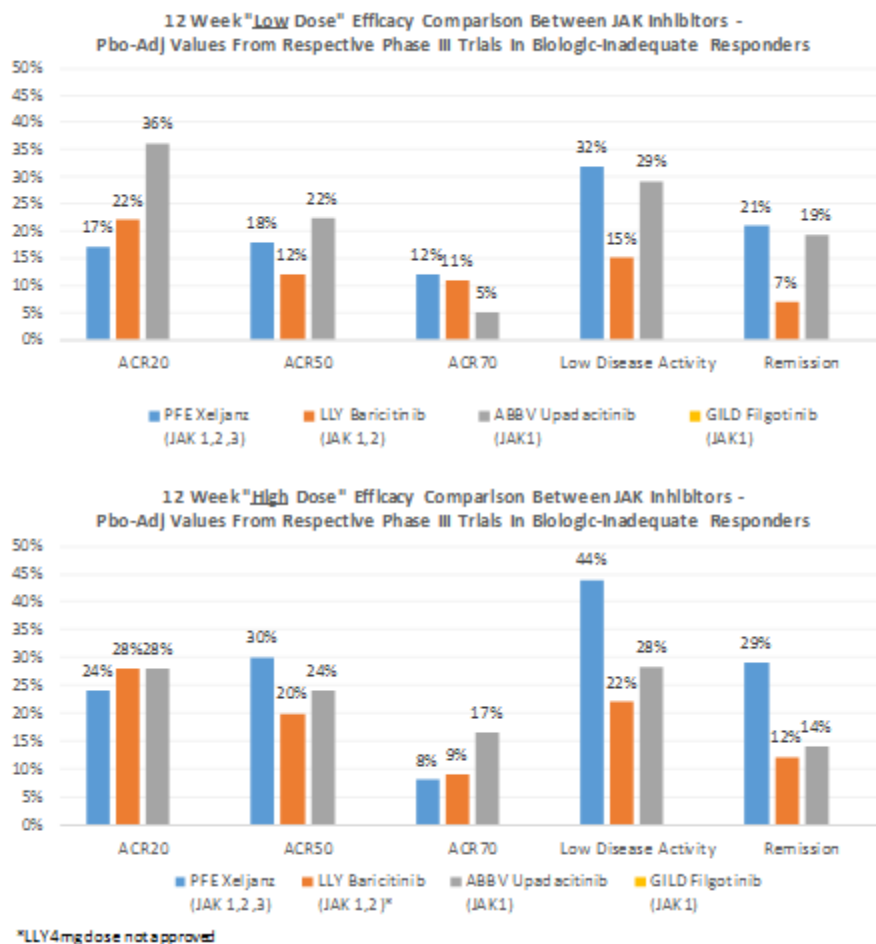
### Expectations for FINCH-2 data

While it is challenging to compare across clinical trials, existing datasets for JAK inhibitors in biologic-inadequate responders enable us to determine what we believe would be construed as positive data for the upcoming FINCH-2 readout in 3Q18. At the very least, we expect Galapagos/Gilead to disclose top-line results on the primary endpoint of ACR20 at week 12, although additional data points on ACR50, ACR70, “low disease activity” and remission rates could also be disclosed. The FINCH-2 study is comparing “low” (100mg) and “high” (200mg) doses of filgotinib against placebo.

On a placebo-adjusted basis, we believe positive efficacy data for the various primary and secondary endpoints at Week 12 would entail:

- **ACR20 (primary endpoint):** 20%-25% for low dose and 25%-30% for high dose.
- **ACR50:** 15%-20% for low dose and 20%-25% for high dose.
- **ACR70:** 5%-10% for low dose and 10%-15% for high dose.
- **Low Disease Activity (DAS28-CRP<3.2):** 20%-30% for both doses.
- **Remission (DAS28-CRP<2.6):** 10%-20% for both doses.

**Exhibit 2: 12 week efficacy comparison of selected JAK inhibitors – top chart compares “low doses”, while bottom chart compares “high doses”**



Source: Jefferies research based on company reports

**Safety data likely to be scrutinised**

We are fairly confident in filgotinib’s efficacy so envisage safety will be a key focus for the FINCH programme, given the concerns related to the JAK inhibitor class overall, with a clean safety profile potentially acting as an important differentiator, in our view.

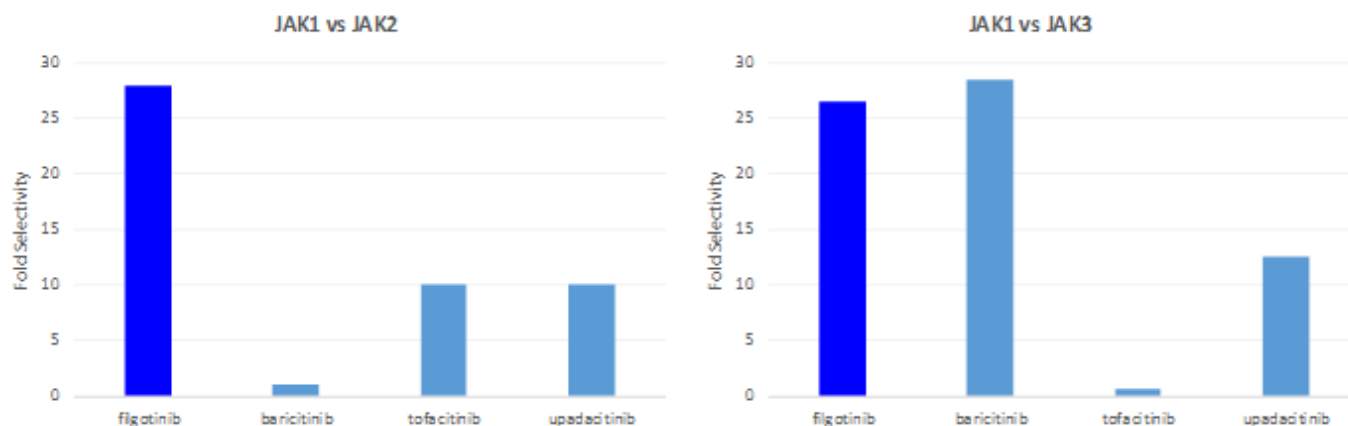
Other JAK inhibitors have shown to produce a range of side effects, including abnormalities in platelets, low density lipoprotein (LDL), cholesterol, red blood cell count and NK (natural killer) cell count, raising concerns about risk of serious infections and venous thromboembolism (VTE). We believe filgotinib has more JAK1 selectivity than any other JAK inhibitor. Unlike other JAKs which may also hit on JAK2 or JAK3, filgotinib’s JAK1 specificity could allow for an improved safety profile.

Concern relating to VTE risk led the FDA to approve only the low dose of Eli Lilly’s (LLY, \$86, Buy) baricitinib. We note key competitor AbbVie (ABBV, \$93, Buy) is keen to emphasise that there has been no VTE imbalance in the Phase III programme of its selective JAK1 inhibitor, upadacitinib, stating that the rates seen are consistent with the background rate in the RA population.

As a JAK1-specific inhibitor, Galapagos’ filgotinib has preclinically demonstrated a 30-fold selectivity for: (1) JAK1 over JAK2; and, (2) JAK 1 over JAK3. Its position as the most selective JAK1 inhibitor was independently corroborated by Dr Iain McInnes at the 2017 ACR meeting. In comparison, Pfizer’s (PFE, \$36, Hold) Xeljanz (tofacitinib) hits JAK 1/2/3,

LLY's Olumiant (baricitinib) hits JAK1/2, ABBV's upadacitinib hits JAK1, and Astellas' (4503 JP, ¥1,700, NC) perfacitinib hits JAK1/3.

### Exhibit 3: Filgotinib is highly JAK1 selective



Source: Jefferies based on company reports

#### Phase IIb RA DARWIN studies supportive of differentiated safety profile

Prior Phase IIb RA studies suggest filgotinib yields a favourable safety profile versus other JAKs and TNFs, including:

- A potentially lower risk of deep venous thrombosis (DVT) and pulmonary embolisms (PE) since filgotinib may actually normalise platelet count.
- A potentially lower risk of infection since filgotinib does not impact lymphocytes, including NK cells, and has only modest impact on neutrophils.
- The added benefit of increasing haemoglobin (Hb) rather than causing anaemia.
- Despite increasing LDL (“bad” cholesterol), filgotinib also increased high density lipoprotein (HDL; “good” cholesterol), and encouragingly, lowered the atherogenic index.

**DARWIN 1 safety results:** 2.5% of patients reported serious and non-serious treatment-emergent adverse events (AEs), which were spread evenly over the placebo and filgotinib groups.

- Six patients with serious infections, including one death in the filgotinib arm although the DSMB (Data Safety Monitoring Board) did not see a reason to pause or change the trial.
- Galapagos did not report any opportunistic infections, which are infections that occur more frequently and are more severe in patients with compromised immune systems.
- Five cases of herpes zoster (rash) were equally spread over placebo and filgotinib groups.

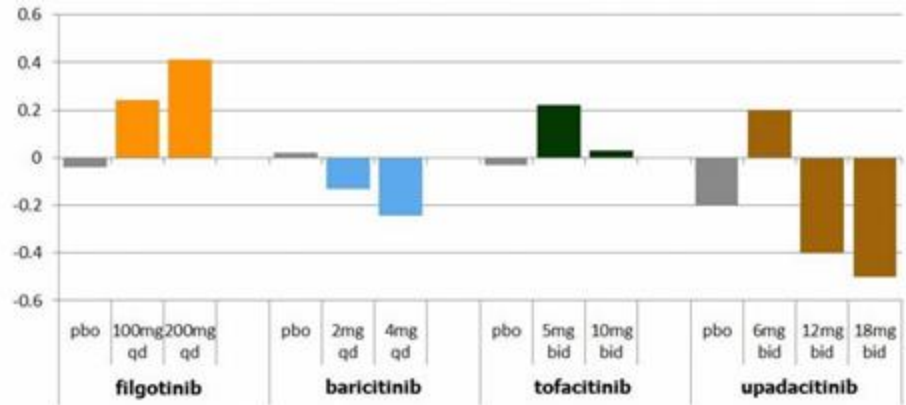
**DARWIN 2 safety results:** In the first 12 weeks, Galapagos saw a higher discontinuation rate for safety in the placebo arm versus filgotinib patients (5.6% placebo vs 2.5% drug). Galapagos saw a similar incidence of serious and non-serious treatment-emergent AEs (TEAEs), which were again evenly spread over the placebo and filgotinib groups.

- Filgotinib had a higher rate of infections compared to placebo (19% over 24 weeks for filgotinib versus 10% up to week 12 for placebo).
- Serious infections were limited (e.g. 1.4% of filgotinib patients).

- No malignancies, tuberculosis, major adverse cardiac events (MACE), opportunistic infections, or deaths were observed.

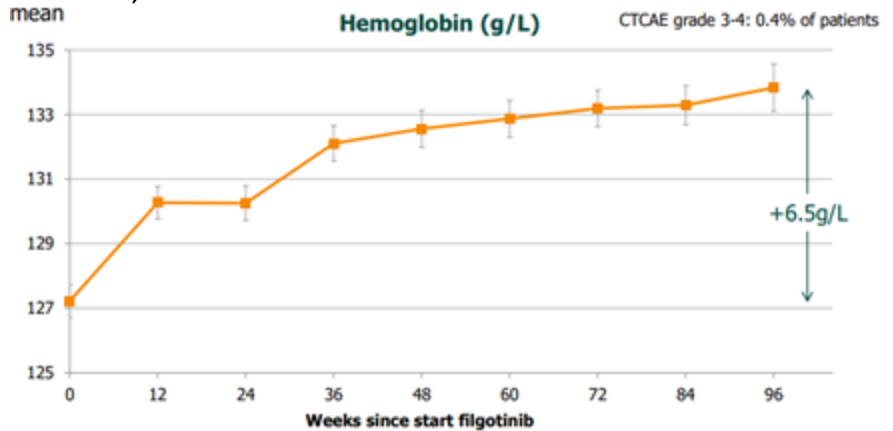
**Filgotinib increases haemoglobin (Hb) levels:** At week 12, Hb levels increased up to c.0.4-0.5 g/dL in both DARWIN 1 and 2 studies (or a c.4% increase from baseline). Longer-term follow-up showed Hb increasing by up to 0.65g/dL at week 96.

**Exhibit 4: Filgotinib’s haemoglobin profile – Hb mean at week 12 (g/dL)**



Source: Company reports; Filgotinib – Westhovens et al, and Kavanaugh et al, ARD 2016; baricitinib – Dougados et al, Ann Rheum Dis 2016, RA-BUILD; tofacitinib – FDA AdComm briefing document May 2012; upadacitinib – Genovese et al, ACR 2017

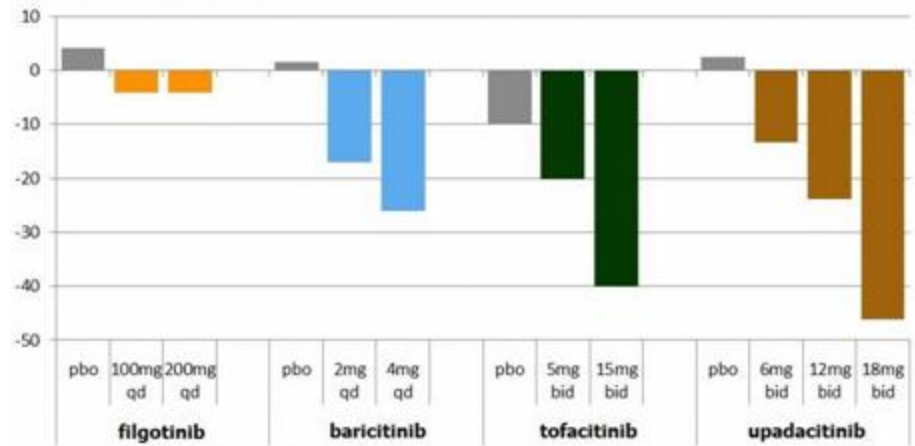
**Exhibit 5: Filgotinib’s long-term haemoglobin profile over time (g/L) – DARWIN 1, 2 & 3 over time mean**



Source: Company reports

**Filgotinib maintains NK cell counts:** Even though RA causes patients to experience a decrease in NK cells, filgotinib shows a minimal impact on NK cells. Longer-term studies show NK levels were maintained through week 96.

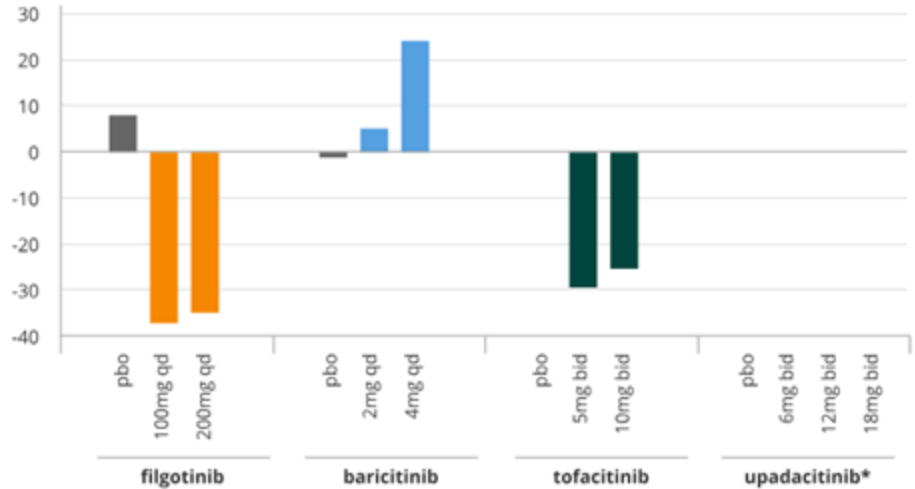
**Exhibit 6: Reduction of NK cells at week 12, CFB % (mean)**



Source: Company reports; Filgotinib – Westhovens et al, and Kavanaugh et al, ARD 2016; baricitinib – Dougados et al, Ann Rheum Dis 2016, RA-BUILD and Tanaka EULAR 2016 abstract RA-BEAM; tofacitinib – Van Vollenhoven abstract 2013, median CFB at W6; upadacitinib – Genovese et al, A&R 2016 BALANCE 2.

**Filgotinib decreases platelets:** Although RA naturally causes patients to experience platelet elevation, filgotinib actually reduces platelets down to a normal level. Longer-term studies show filgotinib reducing platelets levels by 45% at week 96.

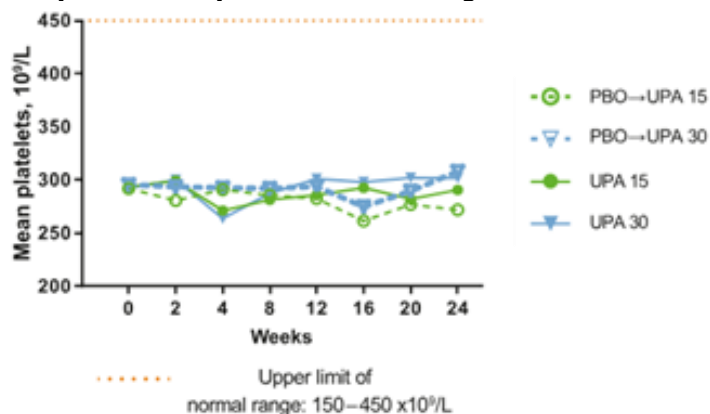
**Exhibit 7: Comparison of platelet levels at week 12, giga/L (mean)**



Source: Company reports; Filgotinib – DARWIN 1 W12 results; baricitinib – Dougados et al, Ann Rheum Dis 2016; tofacitinib – FDA AdComm briefing document May 2012; \*upadacitinib – for data see exhibit below, Genovese et al, ACR 2017.

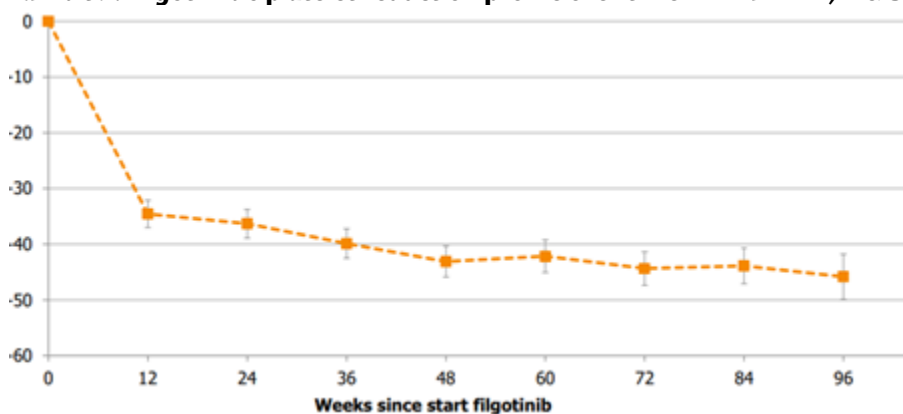


**Exhibit 8: Upadacitinib's platelet trends through week 24**



Source: Genovese et al, ACR 2017; Company reports

**Exhibit 9: Filgotinib's platelet reduction profile over time – DARWIN 1, 2 & 3**



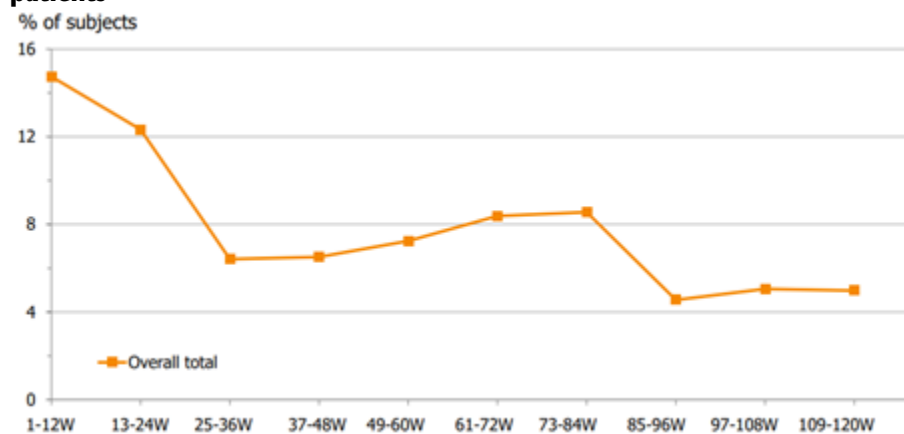
Source: Company reports

**Filgotinib yields low rates of infections and DVTs:** Due to its high selectivity for JAK1, filgotinib shows the lowest rates of infection, DVTs and PEs per 100 patient year experience (PYE) compared to other JAKs and therapy types.

**Exhibit 10: Safety events observed in RA studies: DVTs and infection**

Event per 100 Patient-Year Exposure (PYE)	Filgotinib 50-200mg (QD)	Upadacitinib 6 and 12mg BID	Baricitinib (Dumilant) 2mg and 4mg (QD)	Tofacitinib (Xeljanz) 5mg (BID)	Tocilizumab (Actemra) 4 or 8 mg/kg	Adalimumab (Humira)
Patient Year Exposure (PYE)	1,708	725	6,637	5,891	14,994	23,943
Serious Infection	1.5	2.3	2.9	2.2	4.5	4.6
Herpes Zoster (Rash)	1.2	3.7	3.2	3.6	NR	NR
DVT/PEs	2/1,708	5/725	31/6,754	3/1,849	-	-
N Cases/100PY	0.1	0.7	0.5	0.2	-	-
Source	Genovese (ACR 2017)	Genovese et al (ACR 2017)	Genovese et al (ACR 2017)	Wolfehaupt et al (ACR 2017) Mease et al (ACR 2017)	Genovese et al (ACR 2012)	Bumester et al (ACR 2012)

Source: Company reports, Jefferies

**Exhibit 11: Longer-term data shows infection rates decreasing in filgotinib patients**

Source: Company reports

**Testicular toxicity concerns should eventually be put to rest:** Recall FDA did not allow use of the highest 200mg/day dose in US sites in the Phase IIb DARWIN trial on the basis of regulatory concerns on the male reproductive system based on rat/dog toxicology studies. Thus, FDA allowing inclusion of the 200 mg/day dose in the FINCH programme was an important positive, in our view. We understand the DARWIN trials confirmed no clinically meaningful changes in male hormone levels, including at the 200mg/day in ex-US patients. The FINCH programme also includes a dedicated male patient testicular safety study, which could finally lay safety concerns to rest, in our view. We note that a different FDA division approved the Phase III DIVERSITY study in CD and the Phase IIb/III SELECTION study in UC patients; for these trials, enrolled US males are only eligible to receive the higher 200mg/day dose if they have failed at least one prior biologic.

**Broad applicability means multi-blockbuster potential**

We forecast peak sales of \$3bn in RA, \$600m in CD and \$400m in UC. We understand Gilead and Galapagos aim to pursue development of filgotinib in 10 to 14 indications, not including the Crohn's sub-populations. Given this extensive programme we include a \$2bn WW peak sales contribution reflecting filgotinib's potential use in other indications beyond RA and IBD. We note Humira was not the first anti-TNF $\alpha$  biologic to be approved but it is now the most commercially successful, in part due to its regulatory approvals for numerous indications. Currently we believe 35%-40% of Humira's global sales are from its use in indications other than RA and IBD, hence we estimate a 30%-35% contribution from these diseases for filgotinib representing around \$2bn at peak.

We estimate 20%-30% tiered royalties on sales to Galapagos from partner Gilead, but anticipate a 50:50 profit-share on co-promotion in EU5 and Benelux. Galapagos is still eligible to receive up to \$1.27bn in milestones, of which \$600m are dependent on achieving sales targets, and is responsible for funding 20% of R&D spend.

## Cystic Fibrosis: Remains a source of volatility

In a global alliance with AbbVie, Galapagos is pursuing development of a triple combination of a potentiator plus two correctors for cystic fibrosis. However, Galapagos stated in June that it is reviewing the future of the collaboration, following AbbVie's decision not to proceed with the second triple, which many believed to be the preferred combination. Phase Ib FALCON interim data from low doses of the lead triple combo are expected in 3Q18E, along with potential updates on the status of the AbbVie alliance, hence we believe cystic fibrosis could be a source of share price volatility over the next 12 months. However, we highlight that the economics of 15%-20% royalties on sales suggests longer-term the value of this programme is likely overshadowed by filgotinib, the proprietary IPF portfolio, and GLPG1972 for osteoarthritis.

- **Peak sales forecast:** \$3bn worldwide assuming launch in 2023E
- **Valuation:** €15 per share with a 30% probability of success
- **Next news flow:** Initial FALCON data from the first triple combination study in Class II CF patients around 3Q18E. Updates on the collaboration review and on development plans for the second triple. Multiple clinical data read-outs for candidate correctors and potentiators.

### PELICAN data fails to impress

In June, Galapagos reported that novel C2 corrector '2737 met the primary endpoint in the Phase IIa PELICAN trial, leading to a statistically significant decrease in sweat chloride of 19.6mmol/L versus placebo (p=0.02). A positive trend, but non-significant, +3.4% improvement in ppFEV1 lung function was also observed versus placebo (p=0.08). Galapagos had positioned this as a proof-of-concept (PoC) study for '2737, with management recently emphasising low expectations for lung function benefit; however, we believe many viewed the minimal threshold to be +5% ppFEV1 improvement. Although we caution comparison across clinical trials, we note the +7-13% ppFEV1 efficacy bar set by competitor Vertex's triple. Comparison is further confounded by PELICAN's use of the suboptimal Orkambi backbone, versus Symdeko used in the Vertex triples, and a lower '2737 dose than being pursued by Galapagos in the lead triple.

### Focus now on upcoming FALCON data for first triple

The Phase Ib FALCON study of lead triple combination '2451+'2222+'2737 is in Class II ΔF508 CF patients starting with a fixed-dose combination (FDC) of potentiator '2451 plus early-stage corrector C1 '2222 for two weeks, before then adding late-stage corrector C2 '2737 to study the triple for two weeks. Part 1 will enrol eight ΔF508 homozygous patients before part 2 recruits eight homozygous plus eight heterozygous subjects and investigates a higher dose of the FDC. No further details have been gleaned on dosing but we believe '2451 will be administered as a 35mg loading-dose then 1.5mg daily given its long half-life metabolite.

Initial data from part 1 of FALCON should be available around 3Q18E, although we highlight these are for the low doses of '2451 and '2222 only.

### AbbVie collaboration and second triple under review

The announcement that partner AbbVie has decided not to proceed into the clinic with the second triple, which uses potentiator '3067 with '2222+'2737, came as a surprise as many had viewed this to be the preferred triple, since potentiator '2451 has a long half-life metabolite. No explanation for this decision has been given, although Galapagos has emphasised that it strongly disagrees with the decision, and as a result, is now reviewing the future of the CF collaboration with AbbVie.

### Uncertainties could help extend Vertex's lead

Galapagos/AbbVie were already likely lagging at least two years behind market incumbent Vertex (VRTX, \$170, Buy), which has already begun Phase IIIs with two triple combos (ivacaftor+tezacaftor +VX-659 or +VX-445), with the second triple delay and partnership review possibly extending this further.

Importantly US FDA agreed to a 4-week primary efficacy endpoint and 12 weeks' safety for filing, with 24 weeks' data available during review and for EU/RoW. This suggests the Vertex's first triple could be filed 1H19E and perhaps even reach the US market by YE19E, raising the bar for Galapagos/AbbVie to advance towards pivotal trials. Furthermore, FDA requires Vertex to conduct additional dose-finding studies with once-daily potentiator VX-561 (deuterated ivacaftor) before advancing this into a triple combination with tezacaftor+VX-445. We believe this suggests it is likely FDA would also require Galapagos/AbbVie to conduct dose-range finding trials with the components of its triple combo before initiating later stage trials including US patients. Nevertheless, we still believe patients, physicians and payers would all support introduction of an alternative triple combination, even if it is challenging to demonstrate a superior clinical benefit.

## Retain €115 Price Target

Our €115 per share Price Target is based on a sum-of-the-parts valuation comprising probability-adjusted NPVs for filgotinib and the cystic fibrosis collaboration, together with around €23 Net Cash per share.

**Table 1: Galapagos sum-of-the-parts valuation**

	Indication	Peak Sales (\$mn)	Value (EURmn)	Prob.	Adj. Value (EURmn)	EUR per share
filgotinib (GLPG0634)	RA, Crohn's, Ulcerative Colitis & Others	6,000	5,146	65%	3,345	65.2
CF Collaboration	Cystic fibrosis	3,000	2,500	30%	750	14.6
GLPG1690	Idiopathic pulmonary fibrosis	850	1,847	30%	554	10.8
GLPG1972	Osteoarthritis	3,000	1,331	20%	266	5.2
Net Cash/(Debt)			1,158	100%	1,158	22.6
<b>Valuation</b>			<b>11,983</b>		<b>6,074</b>	<b>118.3</b>
Potential Dilution for Funding	Min. Yrs of Cash	3.0		0%	0	0.0
<b>Potential Diluted Valuation</b>						<b>118.3</b>

Source: Jefferies estimates

**Table 2: Sources of upside potential and downside risk**

	Upside	EUR per share	Downside	EUR per share
filgotinib Phase III in RA	Positive data confirm profile	15.0	Efficacy and/or safety concerns	(50.1)
filgotinib Phase III in Crohn's & Ulcerative colitis	Positive data confirm profile	10.0	Efficacy and/or safety concerns	(15.0)
Clinical progress with CF triple combination	Encouraging Phase IIa data	4.9	Discontinued or delayed	(14.6)
GLPG1690 Phase III ISABELA in IPF	Positive efficacy & safety	18.0	Efficacy and/or safety concerns	(10.8)
<b>Potential Upside/(Downside)</b>		<b>47.9</b>		<b>(90.6)</b>
<b>Potential Valuation</b>		<b>166.2</b>		<b>27.7</b>

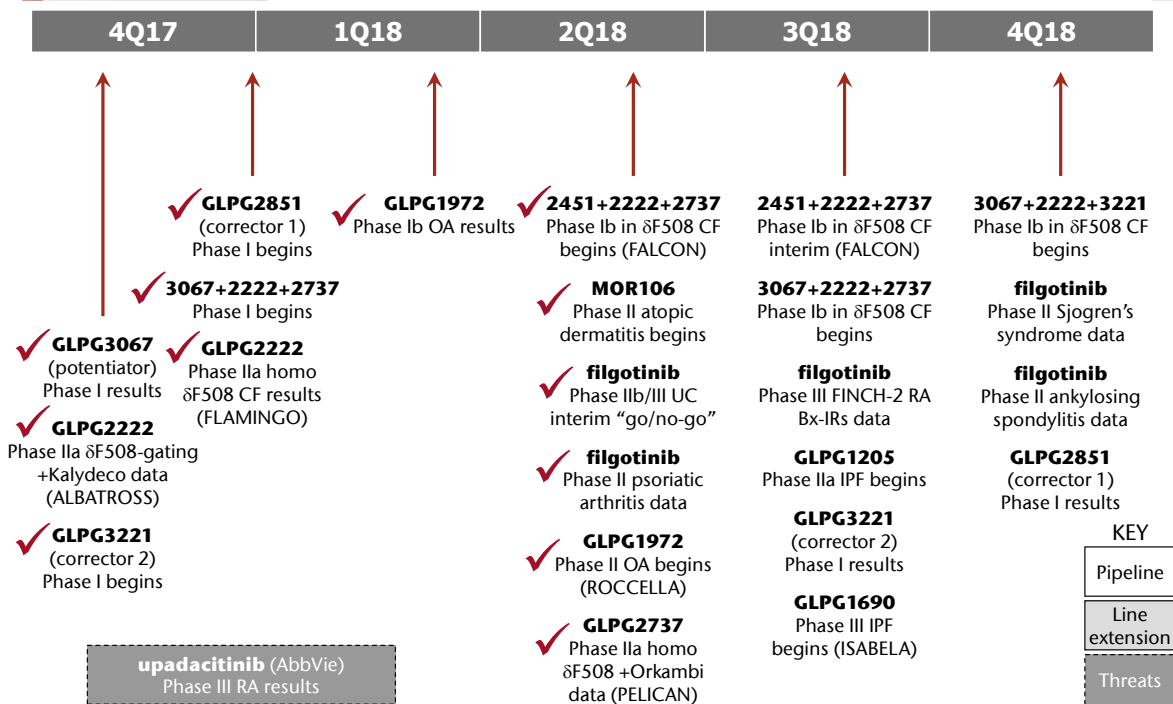
Source: Jefferies estimates



**Exhibit 12: Galapagos catalysts**

**Galapagos**

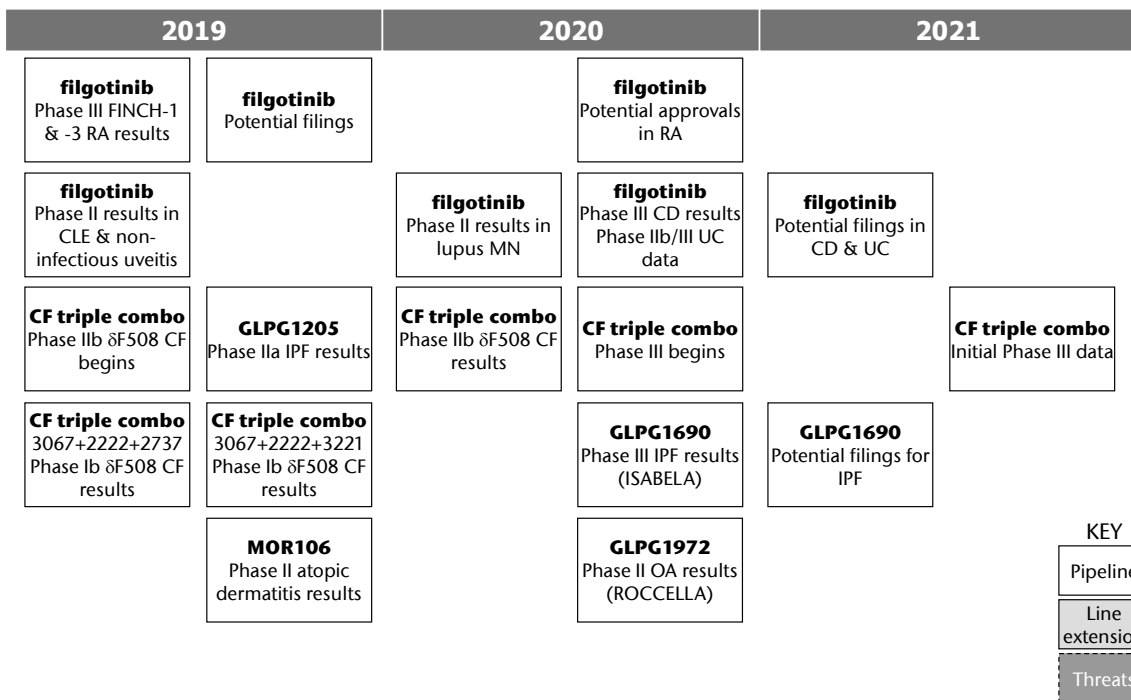
**Near-term catalysts**



**Jefferies**

**Galapagos**

**Mid-term catalysts**



**Jefferies**

Source: Jefferies

## Updated financial models

**Table 4: Galapagos Revenue Model**

(EUR millions Dec YE)	2018E					2018E	2019E	2020E	2021E	2022E
	2017A	1Q18A	2Q18E	3Q18E	4Q18E					
R&D Revenue	127.1	37.9	39.0	46.0	39.7	162.6	211.2	243.2	1.9	387.3
Other Income	28.8	6.9	7.0	6.7	7.4	28.0	25.2	22.7	20.4	18.4
filgotinib Royalties	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.7	48.5	123.7
filgotinib Revenues for EU5-Benelux Profit Share	0.0	0.0	0.0	0.0	0.0	0.0	(14.3)	(37.9)	(8.7)	24.2
Discontinued Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Group Revenue (Prob. Adjusted)</b>	<b>155.9</b>	<b>44.8</b>	<b>46.0</b>	<b>52.7</b>	<b>47.1</b>	<b>190.6</b>	<b>222.0</b>	<b>244.7</b>	<b>62.2</b>	<b>553.6</b>
<b>% Change Year over Year</b>										
R&D Revenue	(1.9%)	11.5%	44.8%	70.7%	1.3%	28.0%	29.8%	15.1%	(99.2%)	20412.0%
Other Income	30.5%	18.1%	12.3%	5.0%	(28.8%)	(2.9%)	(10.0%)	(10.0%)	(10.0%)	(10.0%)
filgotinib Royalties	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	191.0%	154.8%
Total Group Revenue (Prob. Adjusted)	2.8%	12.5%	38.7%	58.1%	(5.0%)	22.3%	16.5%	10.2%	(74.6%)	790.4%

Source: Jefferies estimates, company data

**Table 5: Galapagos Margin Analysis**

	2018E					2018E	2019E	2020E	2021E	2022E
	2017A	1Q18A	2Q18E	3Q18E	4Q18E					
Gross Margin	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Sales & Marketing Expenses	1.8%	0.9%	1.7%	2.8%	4.9%	2.6%	10.2%	11.4%	53.0%	6.1%
General & Admin. Expenses	15.7%	14.9%	15.2%	13.9%	15.9%	14.9%	14.0%	13.7%	57.7%	6.9%
R&D Expenses	140.1%	155.6%	150.0%	134.7%	157.6%	149.0%	150.9%	137.3%	499.8%	60.7%
Operating Income	(57.6%)	(71.5%)	(67.0%)	(51.4%)	(78.4%)	(66.5%)	(75.1%)	(62.4%)	(510.5%)	26.3%
Pretax Profit	(74.1%)	(83.0%)	(68.7%)	(50.1%)	(77.3%)	(69.1%)	(71.9%)	(60.0%)	(504.1%)	27.1%
Net Income	(74.2%)	(83.2%)	(68.7%)	(50.1%)	(77.4%)	(69.1%)	(71.9%)	(60.0%)	(504.1%)	27.1%

Source: Jefferies estimates, company data

**Table 6: Galapagos Profit and Loss Model**

(EUR millions except EPS Dec YE)	2018E									
	2017A	1Q18A	2Q18E	3Q18E	4Q18E	2018E	2019E	2020E	2021E	2022E
Revenue	155.9	44.8	46.0	52.7	47.1	190.6	222.0	244.7	62.2	553.6
Cost of Sales	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gross Profit	155.9	44.8	46.0	52.7	47.1	190.6	222.0	244.7	62.2	553.6
Total Operating Expenses	(245.7)	(76.9)	(76.8)	(79.8)	(84.0)	(317.5)	(388.7)	(397.3)	(379.6)	(407.8)
Sales & Marketing Expenses	(2.8)	(0.4)	(0.8)	(1.5)	(2.3)	(5.0)	(22.7)	(27.8)	(32.9)	(34.0)
General & Admin. Expenses	(24.4)	(6.7)	(7.0)	(7.3)	(7.5)	(28.5)	(31.1)	(33.6)	(35.9)	(38.1)
R&D Expenses	(218.5)	(69.8)	(69.0)	(71.0)	(74.2)	(284.0)	(335.0)	(336.0)	(310.8)	(335.8)
o/w Acquisition-related Amortisation/Write-down	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Operating Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Operating Exceptionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Operating Income</b>	<b>(89.8)</b>	<b>(32.0)</b>	<b>(30.8)</b>	<b>(27.1)</b>	<b>(36.9)</b>	<b>(126.9)</b>	<b>(166.7)</b>	<b>(152.7)</b>	<b>(317.4)</b>	<b>145.8</b>
<b>Adjusted Operating Income</b>	<b>(89.8)</b>	<b>(32.0)</b>	<b>(30.8)</b>	<b>(27.1)</b>	<b>(36.9)</b>	<b>(126.9)</b>	<b>(166.7)</b>	<b>(152.7)</b>	<b>(317.4)</b>	<b>145.8</b>
<b>EBITDA</b>	<b>(85.5)</b>	<b>(30.8)</b>	<b>(29.7)</b>	<b>(26.0)</b>	<b>(35.8)</b>	<b>(122.4)</b>	<b>(161.9)</b>	<b>(147.6)</b>	<b>(312.5)</b>	<b>151.1</b>
Adjusted EBITDA	(85.5)	(30.8)	(29.7)	(26.0)	(35.8)	(122.4)	(161.9)	(147.6)	(312.5)	151.1
Net Financial Income	(25.7)	(5.2)	(0.8)	0.7	0.5	(4.8)	7.0	6.0	4.0	4.0
Exceptionals	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Income from Associates & JVs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Pretax Profit</b>	<b>(115.5)</b>	<b>(37.2)</b>	<b>(31.6)</b>	<b>(26.4)</b>	<b>(36.4)</b>	<b>(131.7)</b>	<b>(159.7)</b>	<b>(146.7)</b>	<b>(313.4)</b>	<b>149.8</b>
<b>Adjusted Pretax Profit</b>	<b>(115.5)</b>	<b>(37.2)</b>	<b>(31.6)</b>	<b>(26.4)</b>	<b>(36.4)</b>	<b>(131.7)</b>	<b>(159.7)</b>	<b>(146.7)</b>	<b>(313.4)</b>	<b>149.8</b>
Taxation	(0.2)	(0.1)	0.0	0.0	(0.0)	(0.1)	0.0	0.0	0.0	0.0
Minority Interests	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Income from Continuing Operations</b>	<b>(115.7)</b>	<b>(37.3)</b>	<b>(31.6)</b>	<b>(26.4)</b>	<b>(36.5)</b>	<b>(131.8)</b>	<b>(159.7)</b>	<b>(146.7)</b>	<b>(313.4)</b>	<b>149.8</b>
Net Income from Discontinued Operations	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Income</b>	<b>(115.7)</b>	<b>(37.3)</b>	<b>(31.6)</b>	<b>(26.4)</b>	<b>(36.5)</b>	<b>(131.8)</b>	<b>(159.7)</b>	<b>(146.7)</b>	<b>(313.4)</b>	<b>149.8</b>
<b>Adjusted Net Income</b>	<b>(115.7)</b>	<b>(37.3)</b>	<b>(31.6)</b>	<b>(26.4)</b>	<b>(36.5)</b>	<b>(131.8)</b>	<b>(159.7)</b>	<b>(146.7)</b>	<b>(313.4)</b>	<b>149.8</b>
WA Basic Shares (mn)	49.5	51.0	51.2	51.2	51.2	51.2	51.7	52.2	52.7	53.2
WA Shares Diluted (mn)	49.5	51.0	51.2	51.2	51.2	51.2	51.7	52.2	52.7	54.8
<b>EPS (EUR)</b>	<b>(2.3)</b>	<b>(0.7)</b>	<b>(0.6)</b>	<b>(0.5)</b>	<b>(0.7)</b>	<b>(2.6)</b>	<b>(3.1)</b>	<b>(2.8)</b>	<b>(5.9)</b>	<b>2.8</b>
<b>Adjusted EPS (EUR)</b>	<b>(2.3)</b>	<b>(0.7)</b>	<b>(0.6)</b>	<b>(0.5)</b>	<b>(0.7)</b>	<b>(2.6)</b>	<b>(3.1)</b>	<b>(2.8)</b>	<b>(5.9)</b>	<b>2.8</b>
Diluted EPS (EUR)	(2.3)	(0.7)	(0.6)	(0.5)	(0.7)	(2.6)	(3.1)	(2.8)	(5.9)	2.7
<b>Diluted Adjusted EPS (EUR)</b>	<b>(2.3)</b>	<b>(0.7)</b>	<b>(0.6)</b>	<b>(0.5)</b>	<b>(0.7)</b>	<b>(2.6)</b>	<b>(3.1)</b>	<b>(2.8)</b>	<b>(5.9)</b>	<b>2.7</b>
<b>Adjusted ADR EPS (\$)</b>	<b>(2.6)</b>	<b>(0.9)</b>	<b>(0.7)</b>	<b>(0.6)</b>	<b>(0.8)</b>	<b>(3.1)</b>	<b>(3.6)</b>	<b>(3.3)</b>	<b>(6.9)</b>	<b>3.3</b>
<b>% Change Year over Year</b>										
Revenue	2.8%	12.5%	38.7%	58.1%	(5.0)%	22.3%	16.5%	10.2%	(74.6)%	790.4%
Cost of Sales	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Gross Profit	2.8%	12.5%	38.7%	58.1%	(5.0)%	22.3%	16.5%	10.2%	(74.6)%	790.4%
Total Operating Expenses	50.7%	50.5%	40.0%	26.7%	9.4%	29.2%	22.4%	2.2%	(4.5)%	7.4%
Sales & Marketing Expenses	57.0%	(25.7)%	49.8%	85.6%	152.7%	78.4%	353.0%	22.7%	18.5%	3.2%
General & Admin. Expenses	12.3%	19.5%	10.6%	24.7%	13.1%	16.7%	9.0%	8.0%	7.0%	6.0%
R&D Expenses	56.6%	55.3%	43.8%	26.1%	7.2%	30.0%	18.0%	0.3%	(7.5)%	8.0%
Operating Income	(681.6)%	(185.4)%	(42.1)%	8.6%	(35.5)%	(41.3)%	(31.4)%	8.4%	(107.9)%	145.9%
Adjusted Operating Income	(681.6)%	(185.4)%	(42.1)%	8.6%	(35.5)%	(41.3)%	(31.4)%	8.4%	(107.9)%	145.9%
Pretax Profit	(312.9)%	(173.6)%	11.1%	27.7%	(22.2)%	(14.0)%	(21.3)%	8.1%	(113.7)%	147.8%
Adjusted Pretax Profit	(3473.9)%	(173.6)%	11.1%	27.7%	(22.2)%	(14.0)%	(21.3)%	8.1%	(113.7)%	147.8%
Net Income	(314.2)%	(174.0)%	11.3%	27.9%	(22.2)%	(13.9)%	(21.2)%	8.1%	(113.7)%	147.8%
Adjusted Net Income	(3237.4)%	(174.0)%	11.3%	27.9%	(22.2)%	(13.9)%	(21.2)%	8.1%	(113.7)%	147.8%
EPS (EUR)	(297.8)%	(148.7)%	13.7%	28.3%	(21.2)%	(10.0)%	(20.0)%	9.0%	(111.6)%	147.3%
Adjusted EPS (EUR)	(2982.2)%	(148.7)%	13.7%	28.3%	(21.2)%	(10.0)%	(20.0)%	9.0%	(111.6)%	147.3%

Source: Jefferies estimates, company data



**Table 7: Galapagos Cash Flow Model**

(EUR millions Dec YE)	2017A	2018E	2019E	2020E	2021E	2022E
Operating Income	(89.8)	(126.9)	(166.7)	(152.7)	(317.4)	145.8
Depreciation and Amortisation	4.3	4.5	4.8	5.1	4.9	5.3
<b>EBITDA</b>	<b>(85.5)</b>	<b>(122.4)</b>	<b>(161.9)</b>	<b>(147.6)</b>	<b>(312.5)</b>	<b>151.1</b>
Other Adjustments and Exceptionals	16.2	17.1	20.0	21.2	22.3	23.4
Decrease/(Increase) in Inventories	0.0	0.3	0.0	0.0	0.0	0.0
Decrease/(Increase) in Receivables	(27.7)	1.2	(6.5)	(2.8)	22.5	(60.6)
Increase/(Decrease) in Payables	14.8	10.1	7.8	1.7	(5.4)	11.3
Increase/(Decrease) in Deferred Income	(65.7)	(125.5)	(108.7)	(68.7)	0.0	0.0
Change in WC	(78.6)	(113.9)	(107.4)	(69.8)	17.1	(49.3)
Taxation Paid	(0.2)	(0.1)	(0.0)	0.0	0.0	0.0
Interest Paid	1.1	(10.0)	(1.0)	(1.0)	(1.0)	(1.0)
<b>Net Cash Flow from Operating Activities</b>	<b>(147.0)</b>	<b>(229.3)</b>	<b>(250.3)</b>	<b>(197.2)</b>	<b>(274.1)</b>	<b>124.2</b>
Purchase of Tangible Fixed Assets	(5.3)	(4.7)	(7.8)	(8.6)	(2.2)	(19.4)
Proceeds from Sale of PP&E	0.0	0.0	0.0	0.0	0.0	0.0
Purchase of Intangible Assets	(2.1)	0.0	0.0	0.0	0.0	0.0
(Purchase)/Sale of Investments	0.4	0.0	0.0	0.0	0.0	0.0
(Acquisitions)/Disposals of Subsidiaries	0.0	0.0	0.0	0.0	0.0	0.0
Dividends Received from Associates	0.0	0.0	0.0	0.0	0.0	0.0
Interest Received	0.0	5.2	8.0	7.0	5.0	5.0
<b>Net Cash Flow from Investing Activities</b>	<b>(7.1)</b>	<b>(4.7)</b>	<b>(7.8)</b>	<b>(8.6)</b>	<b>(2.2)</b>	<b>(19.4)</b>
Management of Liquid Resources	0.0	0.0	0.0	0.0	0.0	0.0
Capital Changes	353.4	6.2	8.8	10.5	12.2	12.3
Debt Changes	(0.1)	(0.0)	0.0	0.0	0.0	0.0
Equity Dividends Paid	0.0	0.0	0.0	0.0	0.0	0.0
Other Financing Cash Flows	0.0	0.0	0.0	0.0	0.0	0.0
<b>Net Cash Flow from Financing Activities</b>	<b>353.4</b>	<b>11.4</b>	<b>16.8</b>	<b>17.5</b>	<b>17.2</b>	<b>17.3</b>
Effect of FX on Cash and Cash Equivalents	(27.8)	0.0	0.0	0.0	0.0	0.0
<b>Increase in Cash</b>	<b>171.5</b>	<b>(222.6)</b>	<b>(241.3)</b>	<b>(188.2)</b>	<b>(259.0)</b>	<b>122.0</b>
<b>Change in Net Debt</b>	<b>(199.3)</b>	<b>227.8</b>	<b>249.3</b>	<b>195.2</b>	<b>264.0</b>	<b>(117.0)</b>
<b>(Cash Burn)</b>	<b>(154.1)</b>	<b>(234.0)</b>	<b>(258.1)</b>	<b>(205.7)</b>	<b>(276.3)</b>	<b>104.8</b>

Source: Jefferies estimates, company data

**Table 8: Galapagos Balance Sheet Model**

(EUR millions Dec YE)	2017A	2018E	2019E	2020E	2021E	2022E
<b>Non-current Assets</b>	<b>88.6</b>	<b>88.8</b>	<b>91.8</b>	<b>95.3</b>	<b>92.6</b>	<b>106.7</b>
Intangible Assets	2.5	1.8	1.1	0.4	0.0	0.0
Property, Plant and Equipment	16.7	17.6	21.3	25.4	23.1	37.2
Investments	2.3	2.3	2.3	2.3	2.3	2.3
Other Long-term Assets	67.1	67.1	67.1	67.1	67.1	67.1
<b>Current Assets</b>	<b>1,197.6</b>	<b>973.5</b>	<b>738.7</b>	<b>553.2</b>	<b>271.7</b>	<b>454.3</b>
Inventories	0.3	0.0	0.0	0.0	0.0	0.0
Trade Accounts Receivable	22.1	20.9	27.4	30.2	7.7	68.2
Other Current Assets	24.0	24.0	24.0	24.0	24.0	24.0
Cash and Cash Equivalents	1,151.2	928.6	687.3	499.1	240.0	362.0
<b>Total Assets</b>	<b>1,286.3</b>	<b>1,062.3</b>	<b>830.5</b>	<b>648.5</b>	<b>364.3</b>	<b>561.0</b>
<b>Current Liabilities</b>	<b>171.7</b>	<b>167.7</b>	<b>135.5</b>	<b>68.6</b>	<b>63.3</b>	<b>74.6</b>
Trade Accounts Payable	47.1	55.7	63.1	64.5	61.6	66.2
Other Current Liabilities	0.9	0.8	0.8	0.8	0.8	0.8
Accrued Expenses	1.2	2.6	3.0	3.4	0.9	7.6
Deferred Income	122.5	108.5	68.5	0.0	0.0	0.0
Short-term Debt	0.0	0.0	0.0	0.0	0.0	0.0
Leasing Obligations	0.0	0.0	0.0	0.0	0.0	0.0
<b>Non-current Liabilities</b>	<b>102.6</b>	<b>74.4</b>	<b>5.7</b>	<b>5.5</b>	<b>5.5</b>	<b>5.5</b>
Long-term Debt	0.0	0.0	0.0	0.0	0.0	0.0
Leasing Obligations	0.0	0.0	0.0	0.0	0.0	0.0
Deferred Tax Liabilities	0.0	0.0	0.0	0.0	0.0	0.0
Deferred Income	97.3	69.1	0.5	0.3	0.3	0.3
Long-term Provisions	5.2	5.2	5.2	5.2	5.2	5.2
<b>Total Shareholders' Equity</b>	<b>1,012.0</b>	<b>820.3</b>	<b>689.4</b>	<b>574.4</b>	<b>295.5</b>	<b>480.9</b>
Share Capital	233.4	233.4	233.4	233.4	233.4	233.4
Share Premium Account	993.0	999.2	1,007.9	1,018.4	1,030.7	1,042.9
Other Reserves and Adjustments	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)	(3.0)
Retained Earnings	(211.4)	(409.3)	(549.0)	(674.5)	(965.6)	(792.4)
Minority Interests	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total Liabilities and Shareholders' Equity</b>	<b>1,286.3</b>	<b>1,062.3</b>	<b>830.5</b>	<b>648.5</b>	<b>364.3</b>	<b>561.0</b>

Source: Jefferies estimates, company data

## Key changes to forecasts

Table 9: Summary estimates changes for Galapagos

Forecasts (EURm)	2018E New	2018E Old	% Chg	2019E New	2019E Old	% Chg
<b>Sales</b>	190.6	189.4	+1%	222.0	219.7	+1%
<b>Adj. EBIT</b>	(126.9)	(128.1)	-1%	(166.7)	(169.1)	-1%
<b>Adj. EPS</b>	-2.57	-2.60	-1%	-3.09	-3.14	-2%
<b>Net Cash/(Debt)</b>	928.6	931.8	-0%	687.3	691.8	-1%
<b>Drivers of Change</b>	Updated FX forecasts					

Source: Jefferies estimates