Galapagos NV (GLPG)
Rating: Buy

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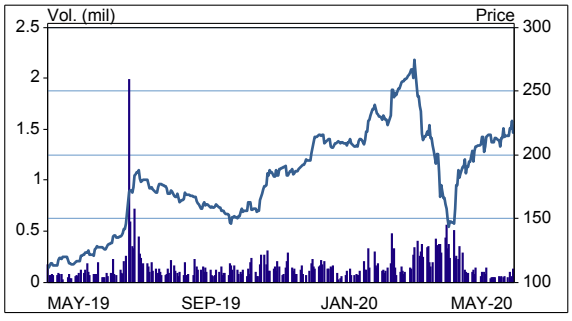
SELECTION Phase 3 Readout a Couple of Weeks out
Plus Our Cheat Sheet on Historic UC Phase 3 Outcomes

Stock Data	05/08/2020
Price	$217.12
Exchange	NASDAQ
Price Target	$302.00
52-Week High	$274.03
52-Week Low	$110.92
Enterprise Value (M)	$7,893
Market Cap (M)	$14,074
Shares Outstanding (M)	64.8
3 Month Avg Volume	191,976
Short Interest (M)	1.21
Balance Sheet Metrics	
Cash (M)	$6,180.2
Total Debt (M)	$0.0
Total Cash/Share	$95.35

General: Currency used is roughly 1 Euro to $1.08 US. Stock price is US$ as on NASDAQ

EPS (€) Diluted			
Full Year - Dec	2019A	2020E	2021E
1Q	€(0.89)	€(0.78)A	--
2Q	€(0.86)	€(1.10)	--
3Q	€5.83	€(1.33)	--
4Q	€(1.86)	€1.62	--
FY	€2.49	€(1.58)	€1.80

Revenue (€)			
Full Year - Dec	2019A	2020E	2021E
1Q	€40.9	€106.9A	--
2Q	€67.6	€103.9	--
3Q	€644.0	€103.9	--
4Q	€143.4	€289.1	--
FY	€895.9	€603.9	€874.5



What's new post 1Q20? COVID-19 has negatively impacted a few programs, a common refrain for most non-oncology programs. However, 2020 is far from dull with a surfeit of potentially platform and Gilead (GILD; not rated) licensing deal-validating late and mid-stage readouts. Key upcoming deliverables include: (1) topline data from the Phase 3 SELECTION trial, anticipated prior to the end of 2Q20; (2) filgotinib approvals in the U.S., EU, and Japan, in 2H20; (3) Phase 2a data from the PINTA program, i.e., GLPG1205 in IPF during 2H20. Recall, approximately 69 IPF patients have been enrolled in the PINTA, which is evaluating GLPG1205 atop nintedanib or pirfenidone, 33% each, while the remainder are on local standard-of-care; (4) Phase 2a readout in systemic scleroderma, i.e., the NOVESA study of ziritaxestat, during 2H20; and (5) ROCCELLA, the 850+ patients Phase 2a study in OA for GLPG1972, in 2H20. Readouts negatively impacted by COVID-19, include: (1) futility analysis from the ISABELA program pushed into 1H21, about three months behind prior schedule. Note, 1,000 patients been recruited into the dual Phase 3 programs as of April 2020; and (2) first look at the TOLEDO platform, now with GLPG3970 as the lead as opposed to GLPG3312, expected during 1H21, as opposed to 2H20. The switch back to -3970 and futility analysis pushout caused significant hand wringing on May 8, 2020, pulling the stock down 4% while the comp group was up 1.5%, following the 1Q20 print. However, we are not about to second guess our Buy rating on the stock, given the near-to-intermediate term calendar.

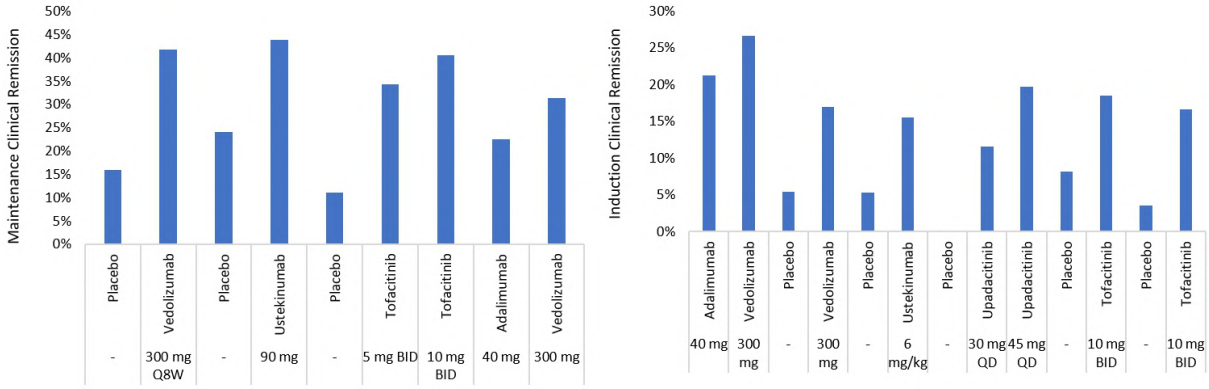
Looking past biologics in UC. While biologics are the mainstay under current therapeutic algorithms: (1) the cumulative relapse rates vary between 67% and 83% after 10 years; (2) a high percentage of patients have an inadequate response with about 30% being characterized as primary non-responders and a further 50% lose response over the time after initial remission, i.e., secondary non-responders, or develop adverse events that lead to discontinuation. Hence, there is a group of patients in whom remission cannot be achieved and surgery is necessary to control the disease. A recent meta-analysis indicated five- and 10-year risk of surgery at 11.6% and 15.6%, respectively. In North America, the prevalence of UC ranges from 120 to 250 cases per 100,000 people, and the incidence ranges from 8 to 20 cases per 100,000 people. Patients can be diagnosed with UC at any age; however, the disease has an age distribution characterized by two peaks of incidence at 15 to 30 years and 50 to 70 years. Filgotinib, a JAK1i with a cleaner safety profile compared to the other pan- and selective JAKi's(refer to *May the Force Be With Filgotinib; Raising Target to $150)*, could position it as the preferred agent in IBD compared to biologics based on: (1) oral administration, which increases treatment compliance; (2) quick onset of action; (3) lack of immunogenicity; (4) short half-life, (5) linear PK; and (6) a differentiated safety profile from its three RA-centric Phase 3 studies complemented by numerous other Phase 2 programs.

We expect the SELECTION study to readout positively. (1) the prior history of JAKi's; and (2) compelling filgotinib data from CD, i.e., the FITZROY study. Recall, patients in the FITZROY trial were required to have a total SES-CD ≥7 at trial entry with ulceration scores of ≥1 in at least one ileocolonic segment. This to us remains a key differentiator vs. the Pfizer (PFE; not rated) experience with Xeljanz in the same indication, where enrollment of mild to moderate patients potentially doomed the trial. Furthermore, the placebo remission rate in the FITZROY program was in line with successful biologics, i.e., about 23% and endoscopic placebo remission rates were 2-7%. Hence, FITZROY success was not due to an underperformance of the placebo cohort, but reflects an active and selective JAK1i; (3) these successes mimicked in to other indications including PsA, and AS, for which registration studies are underway with readouts in 2021 and beyond.

Baseline characteristics matter in UC. An analysis of multiple prior Phase 3 programs in UC lead us to the following observation with regard to patient characteristics that either trended, or were significantly associated, with higher clinical remission rates compared with placebo: (1) gender, males have a better response; (2) age, patients older than 41 responded better; (3) baseline or concomitant corticosteroid use, users responded better; (4) baseline or concomitant immunosuppressant use, users responded better; (5) prior anti-TNF exposure, no exposure equates to better response; and (6) baseline hs-CRP level, <5 mg/L correlates with better outcomes. Surprisingly, baseline Mayo score and duration of disease did not improve clinical remission rates relative to placebo.

Normalized outcomes are consistent across multiple Phase 3 programs. Clinical remission rates increases from a range of 15% to 20% during induction therapy to 25% to 40% during maintenance therapy, see Exhibit 1, 2, and 3. Oral JAKi appeared to have similar efficacy compared with biologics after adjusting for patient baseline characteristics. For example, on paper adalimumab and vedolizumab appear superior to upadactinib and tofacitinib induction therapies, but the percent of patients with prior anti-TNF use in the VARSITY trial was only 21%, whereas in the studies with JAKi these rates were markedly higher, i.e., from 53% to 79%, implying a more advanced population. These, in turn, might have contributed to the higher infection rates compared with the VARSITY study. A concerning trend we found with upadacitinib is the higher rates of infections and cardiovascular events, relative to tofacitinib and mAbs; however, these rates are derived from a relatively small number of patients, and could evolve with more patients. We note the inclusion and exclusion criteria for the Phase 3 SELECTION 1 study of filgotinib in UC are the same as peers, and use the same primary endpoints, see Exhibit 4. One metric to watch we think is the rates of Herpes Zoster (HZ) infection rates in the SELECTION program. Recall, in a pooled analysis of Phase 2, 3, maintenance, and OLE global tofacitinib data on 1,157 UC patients, which encompasses about 1,612.8 patient-years (PY) of exposure, indicated that 5.6% patients developed 69 events of HZ infection with incidence rate of 4.1 per 100 PY. The risk of HZ with tofacitinib 10 mg BID was higher (6.6 per 100 PY; 95% CI 3.2–12.2), compared with 5 mg BID (2.1 per 100 PY; 95% CI 0.4–6.0), and placebo (1.0 per 100 PY; 95% CI 0–5.4), suggesting a dose-response relationship.

Exhibit 1: Clinical Remission From Maintenance (Left) and Induction (Right) Therapy in UC



Source: H.C. Wainwright & Co. research adapted from N Engl J Med 2017; 376:1723-1736 DOI: 10.1056/NEJMoa1606910, Gastroenterology. 2020 Feb 22. pii: S0016-5085(20)30241-9. doi: 10.1053/j.gastro.2020.02.030.

Exhibit 2: Detailed Comparison of Moderate to Severe UC Clinical Trials for Maintenance Therapy

Clinical Trials	GEMINI 1		UNIFI		Octave Sustain			VARSITY,	
Doses	-	300 mg Q8W	-	90 mg	-	5 mg BID	10 mg BID	40 mg	300 mg
Drug	Placebo	Vedolizumab	Placebo	Ustekinumab	Placebo	Tofacitinib	Tofacitinib	Adalimumab	Vedolizumab
Study Phase	3	3	3	3	3	3	3	3b	3b
% Concomitant Corticosteroids	57%	57%	54%	54%	51%	51%	44%	36%	36%
Median Age	40.3	41	42	39.5	43.4	41.9	42.9	40.5	40.8
% Male	55%	57%	61%	53%	59%	52%	56%	56%	61%
Baseline weight	74.7	78.2	71.7	72				73.4	72.7
Baseline CRP mg/L			3.4	4	1	0.7	0.9		
% Prior anti-TNF Use	37%	41%	50%	51%	47%	46%	51%	21%	21%
Safety									
Safety Patient N	126	122	175	176	198	198	197	386	385
% with SAE	16%	8%	10%	9%	7%	5%	6%	14%	11%
% Any Infections	71%	71%	49%	46%	24%	36%	40%	4%	5%
% Cardiovascular Events					0%	1%	1%	0%	0%
% Malignancy	2%	1%	1%	0%	1%	0%	2%		
Efficacy									
Patient N	126	122	175	176	198	198	197	386	385
Maintenance Endpoint (Weeks)	52	52	52	52	52	52	52	52	52
% Achieving 6-Month Steroid Free Maintenance	14%	31%	23%	42%					
% Clinical Remission Mayo, Maintenance	16%	42%	24%	44%	11%	34%	41%	23%	31%
% Histologic Remission Maintenance								3%	10%
% Achieving 6-Month Steroid Free Maintenance								22%	13%

Source:N Engl J Med 2013;369:699-710 DOI: 10.1056/NEJMoa1215734, N Engl J Med 2019;381:1201-14 DOI: 10.1056/NEJMoa1900750, N Engl J Med 2017; 376:1723-1736 DOI: 10.1056/NEJMoa1606910, N Engl J Med 2019;381:1215-26. DOI: 10.1056/NEJMoa1905725.

Exhibit 3: Detailed Comparison of Moderate to Severe UC Clinical Trials for Induction Therapy

Study	VARSITY		GEMINI 1		UNIFI		NCT02819635			Octave 1		Octave 2	
Dose	40 mg	300 mg	-	300 mg	-	6 mg/kg	-	30 mg QD	45 mg QD	-	10 mg BID	-	10 mg BID
Drug	Adalimumab	Vedolizumab	Placebo	Vedolizumab	Placebo	Ustekinumab	Placebo	Upadacitinib	Upadacitinib	Placebo	Tofacitinib	Placebo	Tofacitinib
Study Phase	3b	3b	3	3	3	3	2b	2b	2b	3	3	3	3
% Pt Using Corticosteroids	36%	36%	56%	56%	49%	53%	54%	48%	50%	48%	45%	49%	46%
Median Age	40.5	40.8	41.2	40.1	41.2	41.7	40	42	37	41.8	41.3	40.4	41.4
% Male	56%	61%	62%	59%	62%	61%	63%	60%	66%	63%	58%	49%	60%
% White	88%	90%	77%	81%									
Baseline weight	73.4	72.7	72.4	72.4	72.9	73							
Baseline CRP mg/L					4.7	4.8	5.4	6.7	6.3	4.7	4.4	5	4.6
% Prior anti-TNF Use	21%	21%	49%	42%	50%	51%	48%	79%	70%	53%	53%	58%	55%
Safety													
Safety Patient N	386	385	149	225	319	320	46	52	56	122	476	112	429
% with SAE	14%	11%	7%	2%	7%	3%	11%	6%	5%	4%	3%	8%	4%
% Any Infections	4%	5%	15%	14%	15%	16%	35%	12%	23%	16%	23%	15%	18%
% Herpes Zoster							0%	0%	2%	1%	1%	0%	0.5%
% Cardiovascular Events	0%	0%					0%	0%	2%	0%	0.4%	0%	0.5%
Efficacy													
Patient N	386	385	149	225	319	322	46	52	56	122	476	112	429
Induction Endpoint (Weeks)	14	14	6	6	8	8				8	8	8	8
% Clinical Remission Mayo, Induction	21%	27%	5%	17%	5%	16%	0%	12%	20%	8%	19%	4%	17%
% Endoscopic Remission Induction							0%	10%	18%	2%	7%	2%	7%
% Histologic Remission Induction	3%	5%											

Source: N Engl J Med 2019;381:1215-26. DOI: 10.1056/NEJMoa1905725, N Engl J Med 2013;369:699-710 DOI: 10.1056/NEJMoa1215734 , N Engl J Med 2017; 376:1723-1736 DOI: 10.1056/NEJMoa1606910, Gastroenterology. 2020 Feb 22. pii: S0016-5085(20)30241-9. doi: 10.1053/j.gastro.2020.02.030, N Engl J Med 2017; 376:1723-1736 DOI: 10.1056/NEJMoa1606910.

Exhibit 4: Trial Design for Phase 2/3b SELECTION Program Evaluating Filgotinib in UC

Component	SELECTION1
Phase	2b/3
Patient N	1351
Design	Randomized, Placebo Controlled
Doses	100 mg, 200 mg
Inclusion Criteria 1	Diagnosis of UC for at least 6 months with endoscopic and histopathologic evidence
Inclusion Criteria 2	Moderately to Severely Active UC
Inclusion Criteria 3	Inadequate clinical response to corticosteroids, immunomodulators, anti-TNF, or vedolizumab
Inclusion Criteria 4	Absence of Crohns disease, or other types of colitis
Induction Primary Endpoints	Percent Achieving Clinical Remission Based on Components of Mayo Clinic Score at Week 10
Secondary Endpoints	Percent Achieving Endoscopic Subscore of 0 at Week 10
Secondary Endpoints	Percent Achieving Histologic Remission at Week 10
Maintenance Secondary Endpoints	Percent Achieving Clinical Remission Based on Components of Mayo Clinic Score at Week 58
Secondary Endpoints	Percent Achieving 6-Month Corticosteroid-Free Remission Based on Components of MCS at Week 58
Secondary Endpoints	Percent Achieving Endoscopic Subscore of 0 at Week 58
Secondary Endpoints	Percent Achieving Histologic Remission at Week 58

Source: Adapted from Clinicaltrials.gov.

1Q20 housekeeping. Galapagos reported a net loss of €50.6M vs. our estimate of €80.9M, with GAAP EPS of €0.78 vs. our estimate of €1.30. Total revenue for the quarter was €106.9M vs. our estimate of €103.0M. Galapagos exited the quarter with about $6.2B (€5.7B) in cash and equivalents, which should be sufficient to fund operations for the foreseeable future. Recall, commercial launch of filgotinib in RA is expected during 4Q20, with additional indications to follow during 2021 and beyond. Due to the negative impact of COVID-19 on the clinical programs, cash burn guidance has been revised lower. FY20 operational cash requirement is now expected to be in the range of €400 and €430M, compared to €420 and €450M, previously. For FY20, we now expect a net loss of €103.0M vs. prior €212.8, and GAAP EPS of (€1.58) vs. prior (€3.40), the revision reflects potential revenue recognition from its Gilead partnership during 4Q20.

Valuation and risks to our investment thesis. We reiterate our Buy rating and 12-month price target of $302 on shares of Galapagos. Our target is derived from a 12-year DCF-based, sum-of-the-parts analysis, which includes a beta of 1.41, 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 (82%), GLPG1690 and GLPG1972 (2% each) together make up about 86% of our value, with the remainder derived from the probability-adjusted, filgotinib-related milestone payments. For filgotinib, we assume POS in the range of: 80% for RA, 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, COVID-19 disruptions, 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 RINVOQ.

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

Ticker	GLPG
Period	2020E
Beta est	1.41
Risk-free rate (R_F)(10 yr yield)	1.25%
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)	42.7%
Shareholder equity	2,828,109
Debt outstanding	0
Total capital	2,828,109
Equity/cap	100.0%
Debt/cap	0.0%
WACC (calculated)	8.2%
WACC (applied)	8.2%
Shares outstanding	65,144

Discounted Cash Flow Analysis	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	TV
EBIT (000s €)	€ (82,017)	€ 119,960	€ 570,153	€ 1,135,648	€ 1,816,857	€ 2,061,754	€ 2,545,424	€ 2,501,966	€ 2,645,740	€ 2,711,551	€ 2,738,748	€ 2,758,177	
Tax rate	*-0.3%*	*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)	(82,286)	119,960	570,153	1,135,648	1,816,857	1,649,403	2,036,339	2,001,573	2,116,592	2,169,241	2,190,998	2,206,542	
Capital expenditures	(20,866)	(22,953)	(25,248)	(27,773)	(30,550)	(33,605)	(36,965)	(40,662)	(44,728)	(49,201)	(54,121)	(59,533)	
% growth	*-6.8%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	*10.0%*	
Depreciation	14,689	17,627	18,508	19,434	20,405	21,425	22,497	23,622	24,803	26,043	27,345	28,712	
% growth	*21.5%*	*20.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	*5.0%*	
Change in non-cash working capital	65,981	65,999	70,057	74,341	78,863	22,250	11,434	17,710	19,038	23,570	29,793	36,650	
% growth	*419.6%*	*0.0%*	*6.1%*	*6.1%*	*6.1%*	*-71.8%*	*-48.6%*	*54.9%*	*7.5%*	*23.8%*	*26.4%*	*23.0%*	
Free cash flow to the firm	**(112,712)**	**94,540**	**543,851**	**1,108,513**	**1,788,949**	**1,682,183**	**2,084,367**	**2,048,147**	**2,167,085**	**2,220,915**	**2,242,671**	**2,258,137**	**19,554,806**
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*	
Present value of cash flows	**(109,789)**	**87,374**	**464,531**	**875,071**	**1,305,173**	**1,134,255**	**1,298,911**	**1,179,597**	**1,153,496**	**1,092,546**	**1,019,626**	**948,840**	**7,795,845**
Value of firm	**18,245,476**												
Debt	0												
Value of equity	**18,245,476**												
Value per share ($)	**$ 302.00**												

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

Income Statement

FY end Dec. 31	2018A	1Q19A	2Q19A	3Q19A	4Q19A	2019A	1Q20A	2Q20E	3Q20E	4Q20E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
Income statement																						
(€ in thousands, except per share data)																						
Product revenues	€ 288,836	€ 33,047	€ 58,738	€ 633,934	€ 119,266	€ 844,985	€ 98,173	€ 91,435	€ 91,435	€ 276,620	€ 557,664	€ 867,946	€ 1,450,432	€ 2,158,300	€ 2,976,143	€ 3,280,853	€ 3,846,262	€ 3,852,323	€ 4,034,169	€ 4,120,624	€ 4,162,723	€ 4,196,288
Milestones; other product sales	288,836	33,047	58,738	633,934	119,266	844,985	98,173	91,435	91,435	276,620	557,664	461,574	466,204	570,694	468,866	453,009	487,037	292,593	292,593	292,593	307,222	322,583
filgo RA (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*162,403*	*350,443*	*470,528*	*740,347*	*745,529*	*900,897*	*907,204*	*913,554*	*919,949*	*926,389*	*932,873*
filgo RA (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*223,995*	*480,948*	*642,547*	*804,790*	*806,400*	*808,013*	*809,629*	*811,248*	*812,870*	*814,496*	*816,125*
filgo UC (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*19,974*	*40,227*	*64,814*	*91,783*	*102,695*	*124,097*	*124,965*	*125,840*	*126,721*	*127,608*	*128,501*
filgo UC (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*27,604*	*55,318*	*88,686*	*99,972*	*111,302*	*111,525*	*111,748*	*111,971*	*112,195*	*112,419*
filgo CD (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*85,006*	*171,202*	*280,150*	*325,513*	*445,796*	*501,731*	*531,834*	*535,557*	*539,306*	*543,081*
filgo CD (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*116,895*	*234,258*	*305,145*	*352,794*	*400,633*	*448,662*	*473,220*	*474,167*	*475,115*
filgo PsA (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*33,136*	*83,419*	*117,605*	*162,415*	*183,996*	*205,871*	*207,312*	*208,764*	*210,225*
filgo PsA (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*45,340*	*90,862*	*127,461*	*145,961*	*164,535*	*183,182*	*183,548*	*183,916*
filgo AS (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*22,091*	*55,613*	*78,403*	*108,277*	*122,664*	*137,248*	*138,208*	*139,176*	*140,150*
filgo AS (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*30,227*	*60,575*	*84,974*	*97,307*	*109,690*	*122,121*	*122,366*	*122,610*
1690 IPF (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*11,074*	*23,418*	*33,015*	*39,805*	*45,094*	*52,749*	*53,118*	*55,815*	*56,206*
1690 IPF (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*7,955*	*15,942*	*23,429*	*26,829*	*31,618*	*35,201*	*36,805*	*36,879*
1972 OA (US)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*21,289*	*42,877*	*63,326*	*72,879*	*86,316*	*96,578*	*101,482*	*102,193*
1972 OA (EU)	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*3,313*	*6,639*	*9,313*	*10,664*	*12,021*	*13,384*	*13,411*
Grants + Other income	29,009	7,872	8,852	10,020	24,161	50,905	8,743	12,500	12,500	12,500	46,243	47,168	48,111	49,073	50,055	51,056	52,077	53,119	54,181	55,265	56,370	57,497
Total Revenues	**317,845**	**40,919**	**67,590**	**643,954**	**143,427**	**895,890**	**106,916**	**103,935**	**103,935**	**289,120**	**603,907**	**915,114**	**1,498,543**	**2,207,373**	**3,026,197**	**3,331,909**	**3,898,339**	**3,905,441**	**4,088,350**	**4,175,889**	**4,219,093**	**4,253,785**
Cost of goods sold	0	0	0	0	0	0	0	0	0	0	0	40,637	98,423	158,761	250,728	282,784	335,922	355,973	374,158	382,803	385,550	387,370
Gross profit	**317,845**	**40,919**	**67,590**	**643,954**	**143,427**	**895,890**	**106,916**	**103,935**	**103,935**	**289,120**	**603,907**	**874,476**	**1,400,121**	**2,048,613**	**2,775,470**	**3,049,125**	**3,562,416**	**3,549,468**	**3,714,192**	**3,793,086**	**3,833,543**	**3,866,415**
Research and development	322,876	83,195	94,372	120,680	129,073	427,320	116,763	128,439	141,283	145,522	532,007	585,208	643,729	708,102	743,507	765,812	788,786	812,450	828,699	836,986	845,356	853,809
General and administrative	35,630	9,221	13,711	28,565	22,204	73,701	24,902	26,147	27,454	28,827	107,331	118,064	129,870	142,857	150,000	154,500	159,135	163,909	167,187	170,531	173,942	177,421
Sales and marketing expenses	4,148	1,745	3,874	4,078	14,880	24,577	9,836	16,000	16,500	4,250	46,586	51,245	56,369	62,006	65,106	67,059	69,071	71,143	72,566	74,018	75,498	77,008
Total operating expenses	**362,654**	**94,161**	**111,957**	**153,323**	**166,157**	**525,598**	**151,501**	**170,586**	**185,238**	**178,599**	**685,924**	**754,516**	**829,968**	**912,965**	**958,613**	**987,371**	**1,016,993**	**1,047,502**	**1,068,452**	**1,081,534**	**1,094,795**	**1,108,238**
Operating gains (losses)	**(44,809)**	**(53,242)**	**(44,367)**	**490,631**	**(22,730)**	**370,292**	**(44,585)**	**(66,651)**	**(81,302)**	**110,521**	**(82,017)**	**119,960**	**570,153**	**1,135,648**	**1,816,857**	**2,061,754**	**2,545,424**	**2,501,966**	**2,645,740**	**2,711,551**	**2,738,748**	**2,758,177**
Financial income	18,335	6,999	(1,349)	34,755	(18,923)	21,482	39,722	5,000	5,000	5,000	54,722	55,269	58,033	60,934	63,981	67,180	70,539	74,066	77,769	81,658	85,741	90,028
Fair value re-measurement of share subscription	0	0	0	(142,349)	(39,295)	(181,644)	(20,529)	0	0	0	(20,529)	0	0	0	0	0	0	0	0	0	0	0
Financial expenses	(2,736)	(2,345)	(1,472)	(38,631)	(17,623)	(60,071)	(24,873)	(10,000)	(10,000)	(10,000)	(54,873)	(57,617)	(60,497)	(63,522)	(66,698)	(70,033)	(73,535)	(77,212)	(81,072)	(85,126)	(89,382)	(93,851)
Total other income (expense)	**15,599**	**4,654**	**(2,821)**	**(146,225)**	**(75,841)**	**(220,233)**	**(5,680)**	**(5,000)**	**(5,000)**	**(5,000)**	**(20,680)**	**(2,347)**	**(2,465)**	**(2,588)**	**(2,717)**	**(2,853)**	**(2,996)**	**(3,146)**	**(3,303)**	**(3,468)**	**(3,642)**	**(3,824)**
Gain (loss) before income taxes	**(29,210)**	**(48,588)**	**(47,188)**	**344,406**	**(98,571)**	**150,059**	**(50,265)**	**(71,651)**	**(86,302)**	**105,521**	**(102,697)**	**117,613**	**567,688**	**1,133,060**	**1,814,139**	**2,058,900**	**2,542,428**	**2,498,820**	**2,642,437**	**2,708,083**	**2,735,106**	**2,754,353**
Income tax benefit (expense)	(49)	(68)	(61)	16,828	(16,919)	(214)	(336)	0	0	0	(336)	0	0	0	0	(411,780)	(508,486)	(499,764)	(528,487)	(541,617)	(547,021)	(550,871)
Net income (loss)	**(29,259)**	**(48,656)**	**(47,249)**	**361,234**	**(115,484)**	**149,845**	**(50,601)**	**(71,651)**	**(86,302)**	**105,521**	**(103,033)**	**117,613**	**567,688**	**1,133,060**	**1,814,139**	**1,647,120**	**2,033,942**	**1,999,056**	**2,113,949**	**2,166,466**	**2,188,085**	**2,203,483**
Earnings (loss) per share - diluted	**€ (0.56)**	**€ (0.89)**	**€ (0.86)**	**€ 5.83**	**€ (1.86)**	**€ 2.49**	**€ (0.78)**	**€ (1.10)**	**€ (1.33)**	**€ 1.62**	**€ (1.58)**	**€ 1.80**	**€ 8.68**	**€ 17.29**	**€ 27.63**	**€ 25.03**	**€ 30.85**	**€ 30.26**	**€ 31.94**	**€ 32.66**	**€ 32.92**	**€ 33.09**
Shares outstanding - diluted	52,227	54,615	54,823	61,954	62,078	60,118	64,819	64,949	65,079	65,209	65,144	65,274	65,405	65,535	65,666	65,798	65,929	66,061	66,193	66,326	66,458	66,591

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

Cash Flow Statement

Cash flows statement	2018A	1Q19A	2Q19A	3Q19A	4Q19A	2019A	1Q20A	2Q20E	3Q20E	4Q20E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
($ in thousands, except per share data)																						
Cash flows from Operating activities:																						
Net gain (loss)	€ (29,259)	€ (48,656)	€ (47,249)	€ 361,234	€ (115,484)	€ 149,845	€ (50,601)	€ (71,651)	€ (86,302)	€ 105,521	€ (103,033)	€ 117,613	€ 567,688	€ 1,133,060	€ 1,814,139	€ 1,647,120	€ 2,033,942	€ 1,999,056	€ 2,113,949	€ 2,166,466	€ 2,188,085	€ 2,203,483
Adjustments for non-cash transactions; and items to discl sep under op cash flow	€ 17,364	€ 4,007	€ 16,407	€ 107,523	€ 112,359	€ 240,296	€ 22,188	€ 17,050	€ 17,550	€ 18,050	€ 74,838	€ 46,482	€ 51,541	€ 57,126	€ 63,292	€ 70,097	€ 77,606	€ 85,891	€ 95,031	€ 104,591	€ 115,683	€ 127,916
Adjustment for items to disclose under investing and financing cash flows	(668)	(3)	0	0	(5,058)	(5,061)	(2,596)	0	0	0	(2,596)	(2,622)	(2,648)	(2,675)	(2,701)	(2,728)	(2,756)	(2,783)	(2,811)	(2,839)	(2,868)	(2,896)
Change in working capital other than deferred income	19,922	(2,294)	(13,624)	57,044	(28,428)	12,698	52,481	5,000	3,500	5,000	65,981	65,999	70,057	74,341	78,863	22,250	11,434	17,710	19,038	23,570	29,793	36,650
Decrease in deferred income	(153,312)	(25,979)	(27,499)	2,943,764	(86,084)	2,804,202	(91,677)	(100,000)	(100,000)	(100,000)	(391,677)	(391,677)	(391,677)	(391,677)	(175,000)	(175,000)	(150,000)	(150,000)	(150,000)	(100,000)	(75,000)	(25,000)
Interest paid; and received, net	3,495	1,238	2,000	990	2,466	6,694	2,574	650	650	650	4,524	4,976	5,474	6,021	6,624	7,286	8,015	8,816	9,698	10,667	11,734	12,907
Income taxes paid	(8)	(11)	(77)	(57)	88	(57)	(1,243)	0	0	0	(1,243)	0	0	0	0	0	0	0	0	0	0	0
Net cash provided (used) by Operating activities	**(142,466)**	**(71,698)**	**(70,042)**	**3,470,498**	**(120,141)**	**3,208,617**	**(68,874)**	**(148,951)**	**(164,602)**	**29,221**	**(353,206)**	**(159,229)**	**300,435**	**876,197**	**1,785,216**	**1,569,025**	**1,978,242**	**1,958,689**	**2,084,904**	**2,202,455**	**2,267,427**	**2,353,060**
Cash flows from Investing activities:																						
Purchases of property and equipment	(10,392)	(2,103)	(2,930)	(12,289)	(5,063)	(22,385)	(2,866)	(6,000)	(6,000)	(6,000)	(20,866)	(22,953)	(25,248)	(27,773)	(30,550)	(33,605)	(36,965)	(40,662)	(44,728)	(49,201)	(54,121)	(59,533)
Purchase of and expenditure in intangible fixed assets	(3,325)	(1,201)	(2,334)	(1,930)	(17,835)	(23,300)	(10,159)	(1,000)	(1,000)	(1,000)	(13,159)	(13,817)	(14,508)	(15,233)	(15,995)	(16,795)	(17,634)	(18,516)	(19,442)	(20,414)	(21,435)	(22,506)
Proceeds from disposal of p,p, and e	1	1	1	(1)	(1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Increase in/ Interest received/ Decrease in financial investments; and decrease in rest	0	0	0	0	(3,718,880)	(3,718,880)	945,334	0	0	0	945,334	0	0	0	0	0	0	0	0	0	0	0
Acquistion of available-for-sale financial assets	(4,559)	(177)	0	0	0	(177)	(2,669)	0	0	0	(2,669)	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)**	**(14,220)**	**(3,741,779)**	**(3,764,660)**	**929,640**	**(7,000)**	**(7,000)**	**(7,000)**	**908,640**	**(36,770)**	**(39,756)**	**(43,006)**	**(46,545)**	**(50,399)**	**(54,600)**	**(59,178)**	**(64,170)**	**(69,615)**	**(75,556)**	**(82,039)**
Cash flows from Financing activities:																						
Repayment of obligations under finance leases and other debts	(5)	(1,248)	(896)	(1,690)	(1,257)	(5,091)	(1,425)	0	0	0	(1,425)	0	0	0	0	0	0	0	0	0	0	0
Proceeds from capital and share premium increases, gross amount	296,188	0	0	960,087	0	960,087	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	(4,447)	(4,447)	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	6,675	370,722	385,202	5,355	0	0	0	5,355	0	0	0	0	0	0	0	0	0	0	0
Net cash provided (used) by Financing activities	**287,876**	**2,233**	**3,428**	**965,072**	**365,018**	**1,335,751**	**3,930**	**0**	**0**	**0**	**3,930**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Effect of exchange rate differences on cash, cash equivalents; and transfer to curr fina	10,089	4,968	(3,101)	30,514	(241,269)	(208,888)	17,261	0	0	0	17,261	18,124	19,030	19,982	20,981	22,030	23,131	24,288	25,502	26,777	28,116	29,522
Net increase (decrease) in Cash/Cash Equivalents	**139,585**	**(67,895)**	**(74,978)**	**4,451,864**	**(3,738,171)**	**570,820**	**881,957**	**(155,951)**	**(171,602)**	**22,221**	**576,625**	**(177,874)**	**279,709**	**853,173**	**1,759,652**	**1,540,655**	**1,946,773**	**1,923,799**	**2,046,237**	**2,159,618**	**2,219,988**	**2,300,543**
Cash & Cash Equivalents at Beginning of Period	**1,151,211**	**1,290,796**	**1,222,901**	**1,147,923**	**5,599,787**	**1,290,796**	**1,861,616**	**2,743,573**	**2,587,622**	**2,416,019**	**1,861,616**	**2,438,241**	**2,260,366**	**2,540,076**	**3,393,249**	**5,152,901**	**6,693,556**	**8,640,330**	**10,564,129**	**12,610,366**	**14,769,984**	**16,989,972**
Cash & Cash Equivalents at End of Period	**€ 1,290,796**	**€ 1,222,901**	**€ 1,147,923**	**€ 5,599,787**	**€ 1,861,616**	**€ 1,861,616**	**€ 2,743,573**	**€ 2,587,622**	**€ 2,416,019**	**€ 2,438,241**	**€ 2,438,241**	**€ 2,260,366**	**€ 2,540,076**	**€ 3,393,249**	**€ 5,152,901**	**€ 6,693,556**	**€ 8,640,330**	**€ 10,564,129**	**€ 12,610,366**	**€ 14,769,984**	**€ 16,989,972**	**€ 19,290,515**

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

Balance Sheet

Balance sheet	2018A	1Q19A	2Q19A	3Q19A	4Q19A	2019A	1Q20A	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	€ 5,599,787	€ 1,861,616	€ 1,861,616	€ 2,743,573	€ 2,587,622	€ 2,416,019	€ 2,438,241	€ 2,438,241	€ 2,260,366	€ 2,540,076	€ 3,393,249	€ 5,152,901	€ 6,693,556	€ 8,640,330	€ 10,564,129	€ 12,610,366	€ 14,769,984	€ 16,989,972	€ 19,290,515
Trade and other receivables	18,609	15,347	42,067	32,642	54,009	54,009	27,096	35,846	45,846	55,846	55,846	65,733	75,785	86,000	96,377	137,605	186,916	235,898	287,167	339,272	391,522	443,767
Current R&D incentives receivables	11,203	11,645	11,644	9,746	21,949	21,949	22,084	30,834	40,834	50,834	50,834	67,289	84,239	101,696	119,677	168,890	226,584	284,369	344,882	406,691	469,132	532,076
Current restricted cash	0	0	0	0	3,919,216	3,919,216	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805	2,978,805
Other current assets	8,243	9,351	6,970	8,837	9,138	9,138	8,705	9,705	10,705	11,705	11,705	16,705	21,855	27,160	32,623	38,251	44,047	50,017	56,167	62,501	69,024	75,744
Total current assets	**1,328,851**	**1,259,244**	**1,208,604**	**5,651,012**	**5,865,928**	**5,865,928**	**5,780,263**	**5,642,812**	**5,492,209**	**5,535,431**	**5,535,431**	**5,388,898**	**5,700,759**	**6,586,909**	**8,380,384**	**10,017,108**	**12,076,682**	**14,113,218**	**16,277,386**	**18,557,252**	**20,898,455**	**23,320,906**
Intangible assets	3,632	6,497	7,191	23,492	24,927	24,927	33,856	34,306	34,756	35,206	35,206	47,290	59,979	73,302	87,291	101,980	117,403	133,598	150,602	168,456	187,203	206,887
Property, plant and equipment, net	23,137	49,542	51,180	61,883	66,052	66,052	66,979	69,479	71,979	74,479	74,479	82,427	91,815	102,828	115,675	130,582	147,807	167,630	190,367	216,364	246,008	279,725
Deferred tax assets	2,514	2,511	2,516	19,406	4,205	4,205	4,206	4,206	4,206	4,206	4,206	3,853	3,483	3,094	2,685	2,257	1,806	1,333	837	837	837	837
Non-current R&D incentives receivables	73,443	76,029	82,644	89,965	93,407	93,407	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156	93,156
Other non-current assets	7,919	6,377	5,713	5,994	14,090	14,090	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946	13,946
Total assets	**1,439,496**	**1,400,200**	**1,357,848**	**5,851,752**	**6,068,609**	**6,068,609**	**5,992,406**	**5,857,905**	**5,710,252**	**5,756,424**	**5,756,424**	**5,629,571**	**5,963,137**	**6,873,236**	**8,693,137**	**10,359,029**	**12,450,800**	**14,522,882**	**16,726,294**	**19,050,011**	**21,439,605**	**23,915,458**
Liabilities and stockholders' equity																						
Current liabilities:																						
Finance lease liabilities	0	4,580	5,141	5,251	5,826	5,826	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210	6,210
Trade and other payables	68,928	69,880	86,216	156,254	143,434	143,434	169,477	192,977	217,477	243,477	243,477	347,387	456,493	571,054	691,343	817,646	950,264	1,089,514	1,235,726	1,389,248	1,550,447	1,719,706
Current tax payable	1,175	1,168	1,031	1,032	2,037	2,037	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141	1,141
Current financial instruments	0	0	0	0	6,198	6,198	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727	26,727
Current deferred income	149,801	123,822	96,325	468,764	414,298	414,298	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071	419,071
Total current liabilities	**219,904**	**199,450**	**188,713**	**631,301**	**571,793**	**571,793**	**622,626**	**646,126**	**670,626**	**696,626**	**696,626**	**800,536**	**909,642**	**1,024,203**	**1,144,492**	**1,270,795**	**1,403,413**	**1,542,663**	**1,688,875**	**1,842,397**	**2,003,596**	**2,172,855**
Pension liabilities	3,764	3,851	3,939	4,026	8,263	8,263	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444	8,444
Long-term leasing debts; and Other non-current liabilities	1,579	21,144	21,829	22,131	26,547	26,547	26,968	27,618	28,268	28,918	28,918	33,894	39,368	45,390	52,013	59,299	67,314	76,130	85,828	96,495	108,229	121,136
Non-current deferred income	0	0	0	2,659,013	2,586,348	2,586,348	2,494,327	2,394,327	2,294,327	2,194,327	2,194,327	1,802,650	1,410,973	1,019,296	844,296	669,296	519,296	369,296	219,296	119,296	44,296	19,296
Total liabilities	**225,247**	**224,445**	**214,481**	**3,316,471**	**3,192,951**	**3,192,951**	**3,152,365**	**3,076,515**	**3,001,665**	**2,928,315**	**2,928,315**	**2,645,525**	**2,368,427**	**2,097,332**	**2,049,245**	**2,007,834**	**1,998,467**	**1,996,533**	**2,002,442**	**2,066,632**	**2,164,565**	**2,321,731**
Share capital	236,540	237,348	238,475	272,605	287,282	287,282	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106	288,106
Share premium account	1,277,780	1,280,452	1,283,650	2,268,585	2,703,583	2,703,583	2,708,114	2,721,114	2,734,614	2,748,614	2,748,614	2,803,314	2,863,483	2,929,670	3,002,475	3,082,561	3,170,656	3,267,559	3,374,154	3,491,407	3,620,386	3,762,263
Other reserves	(735)	(735)	(735)	(735)	(4,842)	(4,842)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)	(4,919)
Translation differences	(1,557)	(1,290)	(1,505)	(1,267)	(1,142)	(1,142)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)	(663)
Accumulated losses	(297,779)	(340,020)	(376,518)	(3,907)	(109,223)	(109,223)	(150,597)	(222,248)	(308,551)	(203,029)	(203,029)	(101,791)	448,703	1,563,709	3,358,893	4,986,109	6,999,153	8,976,265	11,067,174	13,209,447	15,372,129	17,548,939
Total stockholders' equity	**1,214,249**	**1,175,755**	**1,143,367**	**2,535,281**	**2,875,658**	**2,875,658**	**2,840,041**	**2,781,390**	**2,708,587**	**2,828,109**	**2,828,109**	**2,984,046**	**3,594,710**	**4,775,903**	**6,643,892**	**8,351,195**	**10,452,333**	**12,526,349**	**14,723,852**	**16,983,379**	**19,275,040**	**21,593,727**
Total liabilities and stockholders' equity	**€ 1,439,496**	**€ 1,400,200**	**€ 1,357,848**	**€ 5,851,752**	**€ 6,068,609**	**€ 6,068,609**	**€ 5,992,406**	**€ 5,857,905**	**€ 5,710,252**	**€ 5,756,424**	**€ 5,756,424**	**€ 5,629,571**	**€ 5,963,137**	**€ 6,873,236**	**€ 8,693,137**	**€ 10,359,029**	**€ 12,450,800**	**€ 14,522,882**	**€ 16,726,294**	**€ 19,050,011**	**€ 21,439,605**	**€ 23,915,458**

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

Cash Outlook, Ratio Analysis, and Enterprise Value

CASH QUICK LOOK :	2018A	1Q19A	2Q19A	3Q19A	4Q19A	2019A	1Q20A	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	€ 153,323	€ 166,157	€ 525,598	€ 151,501	€ 170,586	€ 185,238	€ 178,599	€ 685,924	€ 754,516	€ 829,968	€ 912,965	€ 958,613	€ 987,371	€ 1,016,993	€ 1,047,502	€ 1,068,452	€ 1,081,534	€ 1,094,795	€ 1,108,238
Total cash and cash equivalents	€ 1,290,796	€ 1,222,901	€ 1,147,923	€ 5,599,787	€ 5,780,832	€ 5,780,832	€ 5,722,378	€ 5,566,427	€ 5,394,824	€ 5,417,046	€ 5,417,046	€ 5,239,171	€ 5,518,881	€ 6,372,054	€ 8,131,706	€ 9,672,361	€ 11,619,135	€ 13,542,934	€ 15,589,171	€ 17,748,789	€ 19,968,777	€ 22,269,320
Periods of cash remaining	3.5 yrs	13.0 qs	10.5 qs	36.5 qs	35.0 qs	11.0 yrs	38.0 qs	32.5 qs	29.0 qs	30.5 qs	8.0 yrs	7.0 yrs	6.5 yrs	7.0 yrs	8.5 yrs	10.0 yrs	11.5 yrs	13.0 yrs	14.5 yrs	16.5 yrs	18.0 yrs	20.0 yrs

Ratio analysis	2018A	1Q19A	2Q19A	3Q19A	4Q19A	2019A	1Q20A	2Q20E	3Q20E	4Q20E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	2029E	2030E	2031E
EBIT	(44,809)	(53,242)	(44,367)	490,631	(22,730)	370,292	(44,585)	(66,651)	(81,302)	110,521	(82,017)	119,960	570,153	1,135,648	1,816,857	2,061,754	2,545,424	2,501,966	2,645,740	2,711,551	2,738,748	2,758,177
EBITDA	(40,618)	(50,484)	(41,472)	493,815	(19,480)	382,379	(40,396)	(63,151)	(77,802)	114,021	(67,328)	137,587	588,661	1,155,081	1,837,262	2,083,179	2,567,921	2,525,588	2,670,543	2,737,594	2,766,093	2,786,889
EBITDA % of Sales	-13%	-123%	-61%	77%	-14%	43%	-38%	-61%	-75%	39%	-11%	15%	39%	52%	61%	63%	66%	65%	65%	66%	66%	66%
EV/EBITDA multiple	(72x)	(88x)	(122x)	6x	(564x)	29x	(223x)	(175x)	(144x)	99x	(167x)	83x	19x	9x	5x	3x	2x	1x	0x	(0x)	(1x)	(2x)
Gross Profit Margin	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	96%	93%	93%	92%	92%	91%	91%	91%	91%	91%	91%
OpMargin	-14%	-130%	-66%	76%	-16%	41%	-42%	-64%	-78%	38%	-14%	13%	38%	51%	60%	62%	65%	64%	65%	65%	65%	65%
Net Operating Profit After Tax (NOPAT)	(44,858)	(53,310)	(44,428)	507,459	(39,643)	370,078	(44,921)	(66,651)	(81,302)	110,521	(82,353)	119,960	570,153	1,135,648	1,816,857	1,649,973	2,036,938	2,002,202	2,117,253	2,169,935	2,191,726	2,207,306
Free Cash Flow (FCF)	(152,858)	(73,801)	(72,972)	3,458,209	(125,204)	3,186,232	(71,740)	(154,951)	(170,602)	23,221	(374,072)	(182,182)	275,187	848,424	1,754,666	1,535,420	1,941,276	1,918,028	2,040,176	2,153,254	2,213,306	2,293,527
Book per share	€ 23.25	€ 21.53	€ 20.86	€ 40.92	€ 46.32	€ 47.83	€ 43.81	€ 42.82	€ 41.62	€ 43.37	€ 43.41	€ 45.72	€ 54.96	€ 72.88	€ 101.18	€ 126.92	€ 158.54	€ 189.62	€ 222.44	€ 256.06	€ 290.03	€ 324.27
Net cash per share	€ 24.72	€ 22.39	€ 20.94	€ 90.39	€ 29.99	€ 30.97	€ 42.33	€ 39.84	€ 37.12	€ 37.39	€ 37.43	€ 34.63	€ 38.84	€ 51.78	€ 78.47	€ 101.73	€ 131.05	€ 159.91	€ 190.51	€ 222.69	€ 255.65	€ 289.69
Return on assets (ROA)	-2%	-3%	-3%	6%	-2%	2%	-1%	-1%	-2%	2%	-2%	2%	10%	16%	21%	16%	16%	14%	13%	11%	10%	9%
Return on equity (ROE)	-2%	-4%	-4%	14%	-4%	5%	-2%	-3%	-3%	4%	-4%	4%	16%	24%	27%	20%	19%	16%	14%	13%	11%	10%
Current ratio	6.04	6.31	6.40	8.95	10.26	10.26	9.28	8.73	8.19	7.95	7.95	6.73	6.27	6.43	7.32	7.88	8.61	9.15	9.64	10.07	10.43	10.73

Enterprise Value (MC + Total Debt - Cash)	2,916,600	4,451,576	5,071,758	2,920,723	10,977,923	10,977,923	8,988,670	11,032,112	11,230,954	11,236,027	11,222,407	11,427,603	11,175,269	10,349,527	8,617,360	7,104,245	5,185,068	3,288,919	1,270,389	(861,468)	(3,053,639)	(5,326,309)
Market Cap (MC)	4,207,396	5,674,477	6,219,681	8,520,510	12,839,539	12,839,539	11,732,243	13,619,734	13,646,973	13,674,267	13,660,648	13,687,969	13,715,345	13,742,776	13,770,261	13,797,802	13,825,397	13,853,048	13,880,754	13,908,516	13,936,333	13,964,205

Current Share price
€ 209.70

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