

Luxembourg / Real Estate Frankfurt Bloomberg: GYC GR ISIN: LU0775917882

Q2 results

RATING PRICE TARGET

BUY € 27.00

Return Potential 17.0% Risk Rating Medium

RESIDENTIAL LANDLORD REPORTS DOUBLE DIGIT GROWTH IN H1

Second quarter reporting showed continued the strong operational performance this year with all headline figures showing low double digit growth. Net rent climbed 15% Y/Y, thanks to the revisionary potential of the portfolio, which resulted in 3.2% like-for-like (LFL) total net rent growth. External growth was driven mainly by the London footprint (€156m), which now accounts for 5% of the portfolio. Management confirmed full year guidance of FFOPS 1 (€1.19 -€1.22). The share price is trading near all time highs (+20% YTD) and reflects the consistent operational performance. We look for the strong operational performance to continue this year. Our rating remains Buy with a €27 price target.

Organic growth spurs six month performance We continue to rank GCP among the top listed residential landlords, thanks to its sizable portfolio (85k units), strong balance sheet (€925m cash, LTV 35%), and an excellent operational track record (figure 1 overleaf). The €6.9bn portfolio embeds 30% revisionary upside led by: Berlin 50%, North Rhine-Westphalia 30%, and the east German assets (Dresden, Leipzig and Halle) 30%. Annualised net rent market potential, including vacancy compression, now stands at €459m. Germany's residential market continues to suffer from a widening supply / demand gap including Berlin (23% of GCP portfolio) with an estimated 100k unit shortage—a figure that seems highly conservative, given the acute shortage in coveted neighbourhoods, and is expected to double in the next ten years. GCP has also diversified into London and now has a 5% exposure with excellent upside potential for its 850 units. In our view, the recent strength in the share price finally reflects the consistent operational performance (FFO 1 +16% Y/Y) and shareholder value creation (NAVPS +13% YTD). We expect the H1 performance to continue driven by organic growth and value extraction, while GCP continues to filter its pipeline with a 5.0% unlevered NOI (net operating income) as a hurdle rate for future acquisitions.

(p.t.o.)

FINANCIAL HISTORY & PROJECTIONS

2015	2016	2017	2018E	2019E	2020E
333.50	435.67	494.89	539.12	588.20	628.51
53.8%	30.6%	13.6%	8.9%	9.1%	6.9%
177.27	224.73	247.98	276.30	299.69	319.60
393.6	653.1	639.1	780.7	508.7	489.9
2.35	3.25	3.06	3.81	2.41	2.31
2402.09	3208.45	3993.06	5006.44	5395.77	5736.36
0.25	0.68	0.73	0.77	0.88	0.92
128.04	160.12	178.01	195.57	213.51	231.67
1.01	1.05	1.12	1.19	1.27	1.34
388.93	630.27	401.48	941.00	716.57	602.22
	333.50 53.8% 177.27 393.6 2.35 2402.09 0.25 128.04 1.01	333.50 435.67 53.8% 30.6% 177.27 224.73 393.6 653.1 2.35 3.25 2402.09 3208.45 0.25 0.68 128.04 160.12 1.01 1.05	333.50 435.67 494.89 53.8% 30.6% 13.6% 177.27 224.73 247.98 393.6 653.1 639.1 2.35 3.25 3.06 2402.09 3208.45 3993.06 0.25 0.68 0.73 128.04 160.12 178.01 1.01 1.05 1.12	333.50 435.67 494.89 539.12 53.8% 30.6% 13.6% 8.9% 177.27 224.73 247.98 276.30 393.6 653.1 639.1 780.7 2.35 3.25 3.06 3.81 2402.09 3208.45 3993.06 5006.44 0.25 0.68 0.73 0.77 128.04 160.12 178.01 195.57 1.01 1.05 1.12 1.19	333.50 435.67 494.89 539.12 588.20 53.8% 30.6% 13.6% 8.9% 9.1% 177.27 224.73 247.98 276.30 299.69 393.6 653.1 639.1 780.7 508.7 2.35 3.25 3.06 3.81 2.41 2402.09 3208.45 3993.06 5006.44 5395.77 0.25 0.68 0.73 0.77 0.88 128.04 160.12 178.01 195.57 213.51 1.01 1.05 1.12 1.19 1.27

¹ including perpetual notes

RISKS

Risks include, but are not limited to, unfavourable interest rate developments, unfavourable macroeconomic developments, and departure of key personnel.

COMPANY PROFILE

Grand City Properties is a specialist real estate company focused on investing in and managing value-add opportunities in the German real estate market. The overarching strategy is to improve the portfolio through targeted modernisation and intensive tenant management and thus create value by subsequently raising occupancy and rental levels.

MARKET DATA	As of 17 Aug 2018
Closing Price	€ 23.08
Shares outstanding	164.79m
Market Capitalisation	€ 3803.35m
52-week Range	€ 17.63 / 23.58
Avg. Volume (12 Months)	289.745

Multiples	2017	2018E	2019E
P/FFO 1	20.7	19.4	18.1
P/EPRA NAV	1.0	8.0	0.7
FFO 1 Yield	4.8%	5.1%	5.5%
Div Yield	3.2%	3.3%	3.8%

STOCK OVERVIEW

Free Float



·	
COMPANY DATA	As of 30 Jun 2018
Liquid Assets	€ 925.00m
Current Assets	€ 1,563.00m
EPRA NAV ¹	€ 4,502.00m
Total Assets	€ 8,789.00m
Current Liabilities	€ 474.00m
Total Equity	€ 4302.00m
¹ including perpetual notes	
SHAREHOLDERS	
Edolaxia Ltd.	38.6%
Edge Point	5.1%

56.3%

Both the top line and earnings showed solid performances led by a 15% Y/Y rise in net rent. This was spurred by continued strong like-for-like (LFL) performance. As of Q2, GCP realised total LFL net rental growth of 3.2% comprising 2.7% in-place rent and 0.5% occupancy increases. Berlin led the way with 4.0% followed by North-Rhine Westphalia at 3.0%.

Table 1: Second quarter results vs forecasts

in € '000	Q2/18	Q2/18E	Variance	Q2/17	Variance	H1/18	H1/17	Variance
Rental income	136	135	0.6%	121	11.9%	269	239	12.2%
Net rent	92	91	0.9%	80	14.6%	182	159	14.5%
Adjusted EBITDA	69	69	0.1%	61	12.4%	137	121	13.1%
margin	50.8%	51.0%	-	50.6%	-	50.9%	50.5%	-
FFO I	50	49	0.6%	43	14.8%	99	85	16.3%
FFOPS I (€)	0.34	0.34	0.6%	0.32	6.3%	0.60	0.55	9.1%

Source: First Berlin Equity Research; Grand City Properties

FFO 1, the key industry indicator for recurring cash flow, matched our estimate and climbed 15% Y/Y to €50m in Q2/18 equating to FFOPS 1 of €0.34(+6% Y/Y). On a six month basis, FFO 1 rose 16% Y/Y to €99m or € 0.60 per share (+9% Y/Y). Per share growth was partially offset by the higher share count. The strong bottom line performance owes chiefly to the 3.2% LFL rental income. On an annualised basis, FFOPS 1 equals €1.20 corresponding to a 5.1% yield. This also represents the mid point of the guided FFOPS 1 range (€1.19 - €1.22).

Table 2: FFOPS 1 adjusted for perpetual note attribution

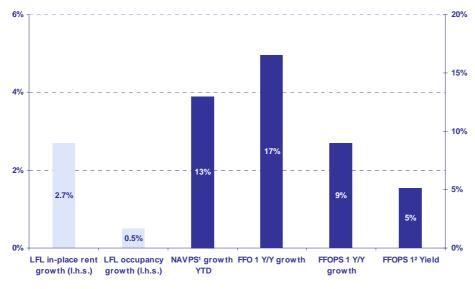
€m	H1/18	H1/17	Variance
FFO 1	99	85	16%
Adjustment for accrued perpetual note attribution	-14	-12	-
FFO 1 after perpetual note attribution	85	73	16%
Weighted avg. basic share count ('000)	164,789	154,336	-
FFOPS 1 after perpetual note attribution	0.52	0.47	11%

Source: First Berlin Equity Research; Grand City Properties

As part of its capital recycling strategy, Grand City disposed of non-core properties acquired as part of large portfolio deals in H1 for a value of €142m—12% over net book value. This generated an €88m economic profit at roughly a 160% margin resulting in FFO 2 of €187m for the period (H1/17: €85m). The company noted further disposals of €35m post reporting.

The capital gains, property revaluations and other income line item totalled €132m for the quarter (Q2/17: €113m, +17%). For the six month period, this KPI totalled €250m corresponding to a 49% increase. The strong development relates to GCP's value-add business model: acquiring properties with strong value upside and repositioning the assets to unlock this potential. Adjusted EBITDA, which reflects recurring operational profit excluding capital gains and revaluation effects, rose 12% Y/Y to €69m (Q2/17: €61m; FBe: €69m). The H1 figure climbed 13% Y/Y to €137m (H1/17: €121m).

Figure 1: Operating performance as of 30 June



fincludes perpetual notes, 2 annulaised

Source: First Berlin Equity Research; Grand City Properties

As of 30 June, EPRA NAV totalled €3.5bn (€21.2 / share) compared to €3.3bn at year end 2017 (€20.2 /share, +5%). NAV growth owes predominantly to the strong net profit of €271m recorded for the six month period. Including the perpetual notes, which are classified as equity under IFRS, this KPI stood at €4.5bn or €27.3 /share (+13%).

Table 3: Portfolio overview as of Q2

	Investment properties (€m)	Rentable area ('000 m²)	EPRA vacancy	Annualised net rent (€m)	In-place rent (€/m²)	Number of units	Value (€/m²)	Rental yield
NRW	1,873	1,832	7.9%	112	5.4	27,386	1,020	6.0%
Berlin	1,448	629	6.0%	53	7.4	8,100	2,301	3.7%
Dresden / Leipzig /Halle	968	1,076	8.7%	58	5.0	18,537	900	6.0%
Mannheim /KL / Frankfurt / Mainz	348	251	5.0%	19	6.6	4,146	1,388	5.6%
Nuremberg /Fürth / Munich	205	102	4.7%	10	7.8	1,471	2,011	4.7%
Bremen / Hamburg / Hannover	477	365	4.3%	26	6.1	5,460	1,305	5.4%
London	156	25	34.9%	4	27.1	393	6,245	2.8%
Others	1,044	1,168	7.0%	71	5.6	19,658	894	6.8%
Development rights & new build*	338	-	-	-	-	-	-	-
Total	6,857	5,448	7.5%	353	5.8	85,151	1,197	5.4%

^{*} land for development, building rights on existing buildings (€ 138m) and premarketed new buildings in London (€200m)

Source: First Berlin Equity Research; Grand City Properties

Investment properties (excluding assets held for sale) stood at €6.9bn and contain 85k units with good demographics. London now constitutes 5% of the portfolio after the addition of 400 units, which are pre-marketed and newly built. These are expected to be marketed and rented starting in Q3. Management hinted at a 5% rent yield over total investment in the first year of letting. GCP now has 850 units and hinted at a London pipeline of some €300m. However, GCP only targets a 10% exposure in the British capital and wants to keep its German exposure at 90%.



Table 4: Financial highlights

in €m	Q2/18	2017	Variance
Cash & liquid assets	925	402	130%
Investment property ¹	6,425	6,388	1%
Total equity	4,302	3,850	12%
EPRA NAV incl. hybrid notes	4,503	3,993	13%
EPRA NAV	3,496	3,327	5%
Interest bearing debt	953	941	1%
Straight bonds	2,223	1,423	56%
Convertible bond	271	432	-37%
Loan-to-Value (LTV)	35%	36%	-
Equity ratio	49%	51%	-

¹ including inventories-trading property

Source: First Berlin Equity Research; Grand City Properties

Flush with cash, flexible for opportunistic growth GCP reported cash and liquid assets of €925m for the period ended 30 June compared to €402m at the end of Q4/17, while net debt stood at €2.5bn vs €2.4bn at the end of 2017. The debt structure featured an LTV of 35%, which remains well below the 45% internal limit set by the Management Board. Coverage ratios were solid with a debt service coverage ratio (DSCR) and an interest coverage ratio (ICR) of 4.9x and 5.9x respectively at the end of Q2. The debt structure continues to feature a 1.6% average cost of debt with an 8.3 year maturity.

Management reiterated its strategy of ensuring that GCP maintains the financial firepower to execute on deal flow. When questioned on the Q2 conference call about the possibility of increasing its current dividend policy (payout ratio of 65% of FFOPS 1), Mr Windfuhr (CEO) noted that the ample cash position most recently helped the company react swiftly in its recent London deals. Moreover, the company continues to work to extend debt maturities and position the company for a potential market downturn in the future. Currently, management confirmed financial firepower of some €1bn, while keeping the LTV below 45%.

VALUATION MODEL

Management reiterated 2018 guidance looking for FFO 1 of €196m - €201m and FFOPS 1 of €1.19 - €1.22 spurred by > 3% LFL growth (Q2: 32%).

Table 5: H1 KPIs vs 2018 guidance

	H1/18 Annualised	FY 2018E
FFO 1	€198m	€196m - €201m
FFOPS 1	€1.20	€1.19 - €1.22
Dividend per share	€0.78	€0.77 - €0.79
LFL rent growth	3.2%	> 3.0%
LTV	35%	< 40%

Source: First Berlin Equity Research; Grand City Properties

Our discounted EPRA NAV valuation model yields a price target of €27. This figure is conservatively based on EPRA NAV excluding perpetual notes. Our PT corresponds to a total return of 20% including the dividend yield. We expect the recent positive share price development to continue supported by the current growth trajectory this year (FBe: FFOPS 1 +6.3%, NAVPS +18.0%). Our rating remains Buy.

All figures in EUR '000	2018E	2019E	2020E
Shareholders' equity (excl. perpetual notes)	3,385,438	3,743,151	4,029,072
Derivative financial instruments	5,885	5,885	5,885
Deferred tax liabilities	573,706	633,854	681,937
EPRA NAV	3,965,029	4,382,890	4,716,894
EPRA NAV per share (€)	29.9	31.5	32.5
FFO I	196,373	214,410	231,669
Revaluation results	462,697	375,930	300,515
Total return	659,070	590,340	532,184

EPRA NAV	3,965,029	4,382,890	4,716,894
Return on NAV	19.8%	14.9%	12.1%
Cost of equity	5.0%	5.0%	5.0%
Spread (percentage points)	14.9%	9.9%	7.2%
Value creation	589,070	435,513	339,159
NPV	582,560	417,951	315,848
Dividends paid	115,708	127,642	150,087
Present value of dividends paid	114,430	122,495	139,771

Fair value calculation		
PV of total value created	1,316,359	
NAV (excl. Perpetual notes) (YE: 2017)	3,183,791	
Equity value	4,500,150	
PV of dividends	376,696	
Fair value	4,876,846	
Number of shares (fully diluted)	176,957	
Fair value per share (€)	27.00	

Valuation metrics	2018E	2019E	2020E
Price target (€)	27.00	27.00	27.00
Share price (€)	23.18	23.18	23.18
Return potential	16.5%	16.5%	16.5%
Dividend yield	3.3%	3.8%	4.0%
Total return potential	19.8%	20.3%	20.4%
NAV discount / premium (share price)	-4.2%	-22.4%	-26.5%
FFOPS 1 yield	5.1%	5.5%	5.8%

INCOME STATEMENT

All figures in EURm	2015	2016	2017	2018E	2019E	2020E
Net rent	220	285	328	353	384	411
Rental and operating income	333	436	495	539	588	629
Revenue from sale of buildings	0	7	2	194	0	0
Revenue	333	443	497	733	588	629
Capital gains, property revaluations & other	311	598	616	474	345	307
Result from equity-accounted investees	0	1	6	8	9	0
Property expenses	-152	-204	-239	-253	-278	-297
Cost of buildings sold	0	-5	-1	0	0	0
Administration expenses	-7	-10	-11	-12	-13	-14
Operating income (EBIT)	486	823	868	950	651	625
Finance expenses	-26	-36	-40	-48	-50	-49
Other financial results	0	-11	-43	-5	0	0
Pre-tax income (EBT)	460	775	786	897	601	575
Tax and deferred tax expenses	-66	-122	-146	-117	-93	-85
Minority interests	-35	-88	-80	-78	-51	-49
Hybrid note investors	-15	-23	-24	-29	-33	-33
Net income	344	542	535	673	425	408
Basic EPS (€)	2.71	3.56	3.35	4.09	2.54	2.36
Diluted EPS (€)	2.35	3.25	3.06	3.81	2.41	2.31
Adjusted EBITDA	177	225	248	276	300	320
Ratios						
Adjusted EBITDA margin	53.2%	51.6%	50.1%	51.3%	51.0%	50.9%
Tax rate	12.8%	11.9%	-11.3%	11.3%	11.3%	11.3%
Expenses as % of revenues						
Property expenses	45.4%	46.8%	48.3%	46.9%	47.2%	47.2%
Administration expenses	2.1%	2.2%	2.2%	2.3%	2.3%	2.3%
Y-Y Growth						
Rental and operating income	53.8%	30.6%	13.6%	8.9%	9.1%	6.9%
Total revenues	44.1%	32.7%	12.2%	47.5%	-19.8%	6.9%
Operating income	41.9%	69.3%	5.5%	9.4%	-31.4%	-4.1%
Adjusted EBITDA	58.3%	26.8%	10.3%	11.4%	8.5%	6.6%
Net income/ loss	67.3%	57.7%	-1.5%	25.9%	-36.8%	-4.0%
Funds from Operations (FFO)						
. , ,						
Operating profit	486	823	868	950	651	625
Depreciation and amortisation	2	2	2	2	2	2
EBITDA Conital gains, property revolutions and other	488	825	871	952 -474	654	627
Capital gains, property revaluations and other Result from disposal of trading properties	-311 0	-598 -2	-616 0	-474 -194	-345 0	-307 0
Others	1	0	-6	-194	-9	0
Adjusted EBITDA	177	225	248	276	300	320
Financial expense	-26	-36	-40	-48	-50	-49
Tax	-23	-27	-28	-31	-34	-36
Minorities	-1	-1	-2	-2	-2	-2
FFO I	128	160	178	196	214	232
CapEx	-34	-56	-67	-86	-95	-101
AFFO	94	104	111	110	119	130

BALANCE SHEET

All figures in EURm	2015	2016	2017	2018E	2019E	2020E
<u>Assets</u>						
Current assets, total	627	1,028	796	1,539	1,343	1,251
Cash and cash equivalents	236	449	312	852	627	513
Traded securities at fair value though P&L	153	181	89	89	89	89
Trade and other receivables	226	220	260	295	322	344
Inventories - Trading property	12	27	12	14	15	16
Assets held for sale	0	150	123	289	289	289
Non-current assets, total	4,062	5,126	6,712	7,682	8,270	8,797
Equipment and intangible assets	9	16	20	22	24	26
Investment property	3,846	4,823	6,414	7,345	7,890	8,379
Equity accounted investees	0	118	37	45	54	54
Other LT assets	195	155	214	240	268	301
Deferred tax assets	11	15	28	31	34	37
Total assets	4,689	6,154	7,508	9,221	9,612	10,048
Shareholders' equity & debt						
Current liabilities, total	277	338	371	370	398	421
Short-term debt	55	29	62	62	62	62
Trade and other payables	190	252	267	263	289	309
Other current liabilities	32	58	42	44	47	50
Long-term liabilities, total	2,239	2,750	3,288	3,993	3,974	4,047
Long-term debt	792	897	919	890	790	790
Convertible and straight bonds	1,168	1,478	1,810	2,456	2,476	2,496
Deferred taxes	239	326	500	585	644	693
Other LT liabilities	40	50	59	62	65	68
Minority interests	142	197	364	443	493	542
Shareholders' equity	2,030	2,868	3,485	4,416	4,746	5,038
Total consolidated equity and debt	4,689	6,154	7,508	9,221	9,612	10,048
Ratios						
Current ratio (x)	2.26	3.04	2.15	4.16	3.37	2.97
Equity ratio	46.3%	49.8%	51.3%	52.7%	54.5%	55.5%
EPRA NAV¹ (€m)	2,402	3,208	3,993	5,006	5,396	5,736
Net debt (€m)	1,626	1,783	2,393	2,467	2,612	2,747
Financial leverage	80.1%	62.2%	68.7%	55.9%	55.0%	54.5%
Loan-to-value (LTV)	41.9%	34.9%	36.4%	32.1%	31.7%	31.5%
Return on equity (ROE)	18.1%	21.3%	16.6%	16.1%	9.7%	8.8%

¹ including perpetual notes

CASH FLOW STATEMENT

All figures in EURm	2015	2016	2017	2018E	2019E	2020E
Net income	394	653	639	781	509	490
Depreciation and amortisation	2	2	2	2	2	2
Profit from equity accounted investees	0	-1	-6	-8	-9	0
Change in fair value of investment properties	-311	-598	-616	-474	-345	-307
Net finance expenses	26	47	83	53	50	49
Tax result	66	122	146	117	93	85
Others	1	1	1	0	0	0
Operating cash flow	177	227	248	470	300	320
Inventories - trading properties	-1	2	-6	-168	-1	-1
Trade & other receivables	-25	-6	-39	-36	-27	-22
Trade & other payables	20	3	19	-3	26	20
Provisions for other liabilities	5	-6	3	2	2	2
Tax paid	-19	-19	-23	-31	-34	-36
Net cash flow from operating activities	157	201	202	235	266	282
Investment in fixed/intangible assets	-4	-3	-6	-4	-5	-4
Investments & acquisitions of investment property	-406	-476	-374	-457	-200	-182
Acquisition of subsidiaries	-446	-111	-324	0	0	0
Proceeds from investments in financial assets	-359	33	95	-26	-29	-32
Cash flow from investing	-1,215	-557	-608	-487	-233	-218
Debt financing, net	440	487	597	617	-80	20
Equity financing, net	640	171	176	343	0	0
Other financing activities	-24	-44	-457	-121	-127	-149
Net paid financing expenses	-33	-46	-47	-48	-50	-49
Cash flow from financing	1,023	569	269	792	-257	-179
Net cash flows	-34	213	-137	540	-224	-114
Cash, start of the year	270	236	449	312	852	627
Cash, end of the year	236	449	312	852	627	513
Adjusted EBITDA / share (€)	1.27	1.46	1.50	1.68	1.76	1.82
FFO I	128	160	178	196	214	232
FFOPS I (€)	1.01	1.05	1.12	1.19	1.27	1.34
Y-Y Growth						
Operating cash flow	38.3%	27.8%	0.5%	16.0%	13.2%	6.3%
Adjusted EBITDA / share	34.5%	15.0%	3.0%	11.4%	4.8%	3.4%
FFO 1	68.2%	25.1%	11.2%	9.9%	9.2%	8.5%
FFOPS 1	52.8%	3.9%	6.5%	6.4%	7.3%	5.0%



FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	21 January 2013	€4.37	Buy	€14.30
224	\downarrow	\downarrow	\downarrow	↓
25	13 March 2018	€18.95	Buy	€26.00
26	21 March 2018	€19.15	Buy	€27.00
27	22 May 2018	€22.74	Buy	€27.00
28	Today	€23.08	Buy	€27.00

Authored by: Ellis Acklin, Analyst

Company responsible for preparation:

First Berlin Equity Research GmbH Mohrenstraße 34 10117 Berlin

Tel. +49 (0)30 - 80 93 96 83 Fax +49 (0)30 - 80 93 96 87

info@firstberlin.com www.firstberlin.com

Person responsible for forwarding or distributing this financial analysis: Martin Bailey

Copyright© 2018 First Berlin Equity Research GmbH No part of this financial analysis may be copied, photocopied, duplicated or distributed in any form or media whatsoever without prior written permission from First Berlin Equity Research GmbH. First Berlin Equity Research GmbH shall be identified as the source in the case of quotations. Further information is available on request.

INFORMATION PURSUANT TO SECTION 34B OF THE GERMAN SECURITIES TRADING ACT [WPHG], TO REGULATION (EU) NO 596/2014 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF APRIL 16, 2014, ON MARKET ABUSE (MARKET ABUSE REGULATION) AND TO THE GERMAN ORDINANCE ON THE ANALYSIS OF FINANCIAL INSTRUMENTS [FINANV]

First Berlin Equity Research GmbH (hereinafter referred to as: "First Berlin") prepares financial analyses while taking the relevant regulatory provisions, in particular the German Securities Trading Act [WpHG], Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014, on market abuse (market abuse regulation) and the German Ordinance on the Analysis of Financial Instruments [FinAnV] into consideration. In the following First Berlin provides investors with information about the statutory provisions that are to be observed in the preparation of financial analyses.

CONFLICTS OF INTEREST

In accordance with Section 34b Paragraph 1 of the German Securities Trading Act [WpHG] and Regulation (EU) No 596/2014 of the European Parliament and of the Council of April 16, 2014, on market abuse (market abuse regulation) financial analyses may only be passed on or publicly distributed if circumstances or relations which may cause conflicts of interest among the authors, the legal entities responsible for such preparation or companies associated with them are disclosed along with the financial analysis.

First Berlin offers a range of services that go beyond the preparation of financial analyses. Although First Berlin strives to avoid conflicts of interest wherever possible, First Berlin may maintain the following relations with the analysed company, which in particular may constitute a potential conflict of interest (further information and data may be provided on request):

- The author, First Berlin, or a company associated with First Berlin holds an interest of more than five percent in the share capital of the analysed company;
- The author, First Berlin, or a company associated with First Berlin provided investment banking or consulting services for the analysed company within the past twelve months for which remuneration was or was to be paid;
- The author, First Berlin, or a company associated with First Berlin reached an agreement with the analysed company for preparation of a financial analysis for which remuneration is owed;
- The author, First Berlin, or a company associated with First Berlin has other significant financial interests in the analysed company;

In order to avoid and, if necessary, manage possible conflicts of interest both the author of the financial analysis and First Berlin shall be obliged to neither hold nor in any way trade the securities of the company analyzed. The remuneration of the author of the financial analysis stands in no direct or indirect connection with the recommendations or opinions represented in the financial analysis. Furthermore, the remuneration of the author of the financial analysis is neither coupled directly to financial transactions nor to stock exchange trading volume or asset management fees.

If despite these measures one or more of the aforementioned conflicts of interest cannot be avoided on the part of the author or First Berlin, then reference shall be made to such conflict of interest.

INFORMATION PURSUANT TO SECTION 64 OF THE GERMAN SECURITIES TRADING ACT [WPHG] (2ND FIMANOG) OF 23 JUNE 2017, DIRECTIVE 2014/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 15 MAY 2014 ON MARKETS IN FINANCIAL INSTRUMENTS AND AMENDING DIRECTIVE 2002/92/EC AND DIRECTIVE 2011/61/EU, ACCOMPANIED BY THE MARKETS IN FINANCIAL INSTRUMENTS REGULATION (MIFIR, REG. EU NO. 600/2014)

First Berlin notes that is has concluded a contract with the issuer to prepare financial analyses and is paid for that by the issuer. First Berlin makes the financial analysis simultaneously available for all interested security financial services companies. First Berlin thus believes that it fulfils the requirements of section 64 WpHG for minor non-monetary benefits.



PRICE TARGET DATES

Unless otherwise indicated, current prices refer to the closing prices of the previous trading day.

AGREEMENT WITH THE ANALYSED COMPANY AND MAINTENANCE OF OBJECTIVITY

The present financial analysis is based on the author's own knowledge and research. The author prepared this study without any direct or indirect influence exerted on the part of the analysed company. Parts of the financial analysis were possibly provided to the analysed company prior to publication in order to avoid inaccuracies in the representation of facts. However, no substantial changes were made at the request of the analysed company following any such provision.

ASSET VALUATION SYSTEM

First Berlin's system for asset valuation is divided into an asset recommendation and a risk assessment.

ASSET RECOMMENDATION

The recommendations determined in accordance with the share price trend anticipated by First Berlin in the respectively indicated investment period are as follows:

Category		1	2
Current market	capitalisation (in €)	0 - 2 billion	> 2 billion
Strong Buy ¹	An expected favourable price trend of:	> 50%	> 30%
Buy	An expected favourable price trend of:	> 25%	> 15%
Add	An expected favourable price trend of:	0% to 25%	0% to 15%
Reduce	An expected negative price trend of:	0% to -15%	0% to -10%
Sell	An expected negative price trend of:	< -15%	< -10%

¹ The expected price trend is in combination with sizable confidence in the quality and forecast security of management.

Our recommendation system places each company into one of two market capitalisation categories. Category 1 companies have a market capitalisation of $\le 0 - \le 2$ billion, and Category 2 companies have a market capitalisation of $> \le 2$ billion. The expected return thresholds underlying our recommendation system are lower for Category 2 companies than for Category 1 companies. This reflects the generally lower level of risk associated with higher market capitalisation companies.

RISK ASSESSMENT

The First Berlin categories for risk assessment are low, average, high and speculative. They are determined by ten factors: Corporate governance, quality of earnings, management strength, balance sheet and financial risk, competitive position, standard of financial disclosure, regulatory and political uncertainty, strength of brandname, market capitalisation and free float. These risk factors are incorporated into the First Berlin valuation models and are thus included in the target prices. First Berlin customers may request the models.

INVESTMENT HORIZON

Unless otherwise stated in the financial analysis, the ratings refer to an investment period of twelve months.

UPDATES

At the time of publication of this financial analysis it is not certain whether, when and on what occasion an update will be provided. In general First Berlin strives to review the financial analysis for its topicality and, if required, to update it in a very timely manner in connection with the reporting obligations of the analysed company or on the occasion of ad hoc notifications.

SUBJECT TO CHANGE

The opinions contained in the financial analysis reflect the assessment of the author on the day of publication of the financial analysis. The author of the financial analysis reserves the right to change such opinion without prior notification.

Legally required information regarding

- key sources of information in the preparation of this research report
- valuation methods and principles
- sensitivity of valuation parameters

can be accessed through the following internet link: http://firstberlin.com/disclaimer-english-link/

SUPERVISORY AUTHORITY: Bundesanstalt für Finanzdienstleistungsaufsicht (German Federal Financial Supervisory Authority) [BaFin], Graurheindorferstraße 108, 53117 Bonn and Lurgiallee 12, 60439 Frankfurt

EXCLUSION OF LIABILITY (DISCLAIMER)

RELIABILITY OF INFORMATION AND SOURCES OF INFORMATION

The information contained in this study is based on sources considered by the author to be reliable. Comprehensive verification of the accuracy and completeness of information and the reliability of sources of information has neither been carried out by the author nor by First Berlin. As a result no warranty of any kind whatsoever shall be assumed for the accuracy and completeness of information and the reliability of sources of information, and neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be liable for any direct or indirect damage incurred through reliance on the accuracy and completeness of information and the reliability of sources of information.

RELIABILITY OF ESTIMATES AND FORECASTS

The author of the financial analysis made estimates and forecasts to the best of the author's knowledge. These estimates and forecasts reflect the author's personal opinion and judgement. The premises for estimates and forecasts as well as the author's perspective on such premises are subject to constant change. Expectations with regard to the future performance of a financial instrument are the result of a measurement at a single point in time and may change at any time. The result of a financial analysis always describes only one possible future development — the one that is most probable from the perspective of the author — of a number of possible future developments.

Any and all market values or target prices indicated for the company analysed in this financial analysis may not be achieved due to various risk factors, including but not limited to market volatility, sector volatility, the actions of the analysed company, economic climate, failure to achieve earnings and/or sales forecasts, unavailability of complete and precise information and/or a subsequently occurring event which affects the underlying assumptions of the author and/or other sources on which the author relies in this document. Past performance is not an indicator of future results; past values cannot be carried over into the future.

Consequently, no warranty of any kind whatsoever shall be assumed for the accuracy of estimates and forecasts, and neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be liable for any direct or indirect damage incurred through reliance on the correctness of estimates and forecasts.



INFORMATION PURPOSES, NO RECOMMENDATION, SOLICITATION, NO OFFER FOR THE PURCHASE OF SECURITIES

The present financial analysis serves information purposes. It is intended to support institutional investors in making their own investment decisions; however in no way provide the investor with investment advice. Neither the author, nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall be considered to be acting as an investment advisor or portfolio manager vis-à-vis an investor. Each investor must form his own independent opinion with regard to the suitability of an investment in view of his own investment objectives, experience, tax situation, financial position and other circumstances.

The financial analysis does not represent a recommendation or solicitation and is not an offer for the purchase of the security specified in this financial analysis. Consequently, neither the author nor First Berlin, nor the person responsible for passing on or distributing the financial analysis shall as a result be liable for losses incurred through direct or indirect employment or use of any kind whatsoever of information or statements arising out of this financial analysis.

A decision concerning an investment in securities should take place on the basis of independent investment analyses and procedures as well as other studies including, but not limited to, information memoranda, sales or issuing prospectuses and not on the basis of this document.

NO ESTABLISHMENT OF CONTRACTUAL OBLIGATIONS

By taking note of this financial analysis the recipient neither becomes a customer of First Berlin, nor does First Berlin incur any contractual, quasi-contractual or pre-contractual obligations and/or responsibilities toward the recipient. In particular no information contract shall be established between First Berlin and the recipient of this information.

NO OBLIGATION TO UPDATE

First Berlin, the author and/or the person responsible for passing on or distributing the financial analysis shall not be obliged to update the financial analysis. Investors must keep themselves informed about the current course of business and any changes in the current course of business of the analysed company.

DUPLICATION

Dispatch or duplication of this document is not permitted without the prior written consent of First Berlin.

SEVERABILITY

Should any provision of this disclaimer prove to be illegal, invalid or unenforceable under the respectively applicable law, then such provision shall be treated as if it were not an integral component of this disclaimer; in no way shall it affect the legality, validity or enforceability of the remaining provisions.

APPLICABLE LAW, PLACE OF JURISDICTION

The preparation of this financial analysis shall be subject to the law obtaining in the Federal Republic of Germany. The place of jurisdiction for any disputes shall be Berlin (Germany).

NOTICE OF DISCLAIMER

By taking note of this financial analysis the recipient confirms the binding nature of the above explanations.

By using this document or relying on it in any manner whatsoever the recipient accepts the above restrictions as binding for the recipient.

QUALIFIED INSTITUTIONAL INVESTORS

First Berlin financial analyses are intended exclusively for qualified institutional investors.

This report is not intended for distribution in the USA, Canada and/or the United Kingdom (Great Britain).