

Deutsche Rohstoff AG

Germany / Raw materials

Frankfurt

Bloomberg: DR0 GR

ISIN: DE000A0XYG76

Update

RATING**PRICE TARGET**

Return Potential

Risk Rating

BUY**€ 18.10**

30.7%

High

OIL/GAS PRODUCTION TO TAKE OFF FROM END 2019

We expect production to jump 31% in 2020 and by a further 21% in 2021 following the start of production at the Olander and Knight drilling pads from December 2019 and January 2021 respectively. Revenue should clearly outpace volume next year as the BOE (barrel of oil equivalent) mix shifts from gas to more valuable oil. Our forecasts are in line with management guidance for 2019 sales and EBITDA of €40-50m and €25-35m respectively and 2020 sales and EBITDA of €75-85m and €55-65m respectively. We estimate that the €13.2m impairment taken at the end of 2018 with respect to DRAG's most important oil and gas producing subsidiary, Cub Creek, implied a 20% reduction in estimated ultimate recovery from existing wells. DRAG reversed half of this impairment in the H1/19 report, but the positive impact of this on our price target is outweighed by a USD6 fall in the oil price at the near-term end of the futures curve since our 14 May note. We have moved our price target down from €23.0 to €18.1 but maintain our Buy recommendation.

Decline in H1/19 volume and revenue due to absence of new production

Unconventional oil and gas production from wells such as those controlled by DRAG typically displays a steep, hyperbolic decline during the first few years of each well's life. In addition, the production mix shifts from oil to gas. No large scale new production came on stream at DRAG during H2/18 or H1/19, and most of the Salt Creek Oil & Gas subsidiary's assets were sold in spring 2018. In consequence H1/19 volume and revenue declined by 42.3% and 55.4% respectively. Revenue fell further than volume because of the decline in oil and gas prices and also because of a shift in the production mix from oil to gas.

Following partial impairment reversal, we estimate Cub Creek reserves only 10% below original level H1/19 EBITDA came in at €15.2m (H1/18: €52.0m) The prior year figure was boosted by other income of €11.8m on the sale of the Salt Creek assets. (p.t.o.)

FINANCIAL HISTORY & PROJECTIONS

	2016	2017	2018	2019E	2020E	2021E
Revenue (€m)	9.17	53.75	109.05	44.43	75.90	86.22
Y-o-y growth	383.4%	486.1%	102.9%	-59.3%	70.9%	13.6%
EBITDA (€m)	6.37	36.13	97.93	29.84	57.68	67.69
EBITDA margin	69.5%	67.2%	89.8%	67.2%	76.0%	78.5%
Net income (€m)	0.10	5.55	13.87	2.08	13.81	23.46
EPS (diluted) (€)	0.02	1.10	2.74	0.41	2.73	4.64
DPS (€)	0.60	0.65	0.70	0.70	0.80	0.80
FCF (€m)	-63.18	-13.93	2.47	-14.43	0.60	58.32
Net gearing	69.9%	132.6%	42.9%	55.8%	51.5%	-1.3%
Liquid assets (€m)	28.09	29.70	59.99	41.73	38.79	15.96

RISKS

Risks include negative movements in the oil price and other raw materials prices, dry well risk, mechanical failure, loss of key personnel.

COMPANY PROFILE

Deutsche Rohstoff AG (DRAG) is a resources company with a portfolio of properties in oil/gas, so-called high tech metals such as tin and tungsten, base metals and rare earths. The business model is based on production in well explored areas in politically stable countries. DRAG is based in Mannheim, Germany.

MARKET DATA

As of 27 Sep 2019

Closing Price	€ 13.85
Shares outstanding	5.06m
Market Capitalisation	€ 70.12m
52-week Range	€ 12.55 / 20.50
Avg. Volume (12 Months)	5,607

Multiples	2018	2019E	2020E
P/E	5.1	33.6	5.1
EV/Sales	1.1	2.8	1.6
EV/EBITDA	1.2	4.1	2.1
Div. Yield	5.1%	5.1%	5.8%

STOCK OVERVIEW



COMPANY DATA

As of 30 Jun 2019

Liquid Assets	€ 35.36m
Current Assets	€ 42.76m
Intangible Assets	€ 22.38m
Total Assets	€ 208.48m
Current Liabilities	€ 10.22m
Shareholders' Equity	€ 77.37m

SHAREHOLDERS

Management	10.0%
Institutional shareholders	30.0%
Free float	60.0%



However, after stripping this figure out of the comparison, the EBITDA margin was still lower at 62.8% (H1/18: 74.3%) due to lower commodity prices and the shift in the production mix towards gas.

Figure 1: Recent quarterly results

€ 000 's	Q1 18A	Q2 18A	Q3 18A	Q4 18A	2018A	Q1 19A	Q2 19A	H1 19A
Revenue	15,661	38,457	34,317	20,616	109,052	14,665	9,492	24,157
change	-25.2%	243.6%	367.6%	44.3%	102.9%	-6.4%	-75.3%	-55.4%
EBITDA	10,636	41,384	27,465	18,449	97,933	12,838	2,342	15,181
margin	67.9%	107.6%	80.0%	89.5%	89.8%	87.5%	24.7%	62.8%
Depreciation on fixed/intangible assets	-7,773	-27,232	-19,802	-3,230	-58,037	-7,085	-245	-7,330
Amortisation of financial assets	0	-29	-59	-7,118	-7,205	-522	142	-380
EBIT	2,863	14,124	7,604	8,101	32,691	5,231	2,239	7,471
margin	18.3%	36.7%	22.2%	39.3%	30.0%	35.7%	23.6%	30.9%

Source: DRAG

DRAG's 2018 P&L included a €13.2m impairment on the existing wells at Cub Creek. We estimate that Cub Creek accounted for €67m or nearly two thirds of the book value of DRAG's oil producing assets at the end of 2018. On the basis of this estimate, the €13.2m impairment would imply a 20% reduction in remaining estimated ultimate recovery at Cub Creek. H1/19 group depreciation was €7.3m after €7.1m in Q1/19. The Q2/19 depreciation charge was only €0.2m because DRAG reversed €6.8m of the €13.2m impairment taken at end 2018. This suggests that disregarding recent production, estimated ultimate recovery at Cub Creek is now only around 10% below the level prior to the impairment.

Figure 2: Recent oil/gas output by subsidiary and forecasts to 2021

BOE	FY/18A	Q1/19A	Q2/19A	H1/19A	Q3/19E	Q4/19E	H2/19E	FY/19E	FY/20E	FY/21E
Cub Creek	1,707,443	247,838	205,733	453,571	185,160	219,772	404,932	858,503	1,714,122	2,348,766
change (%)	22.6%	-8.0%	-56.1%	-38.5%	-66.5%	-47.2%	-58.2%	-49.7%	99.7%	37.0%
of which:										
oil	781,425	92,584	78,283	170,867	83,322	122,201	205,522	376,389	1,184,278	1,595,680
gas	926,018	155,254	127,450	282,704	101,838	97,572	199,409	482,113	529,844	753,086
gas as % total	54.2%	62.6%	61.9%	62.3%	55.0%	44.4%	49.2%	56.2%	30.9%	32.1%
Elster	1,600,180	285,192	186,882	472,074	66,000	155,000	221,000	693,074	394,732	252,934
change (%)	861.9%	147.1%	-71.4%	-38.5%	-86.1%	-56.6%	-142.7%	-56.7%	-43.0%	-35.9%
of which:										
oil	937,000	137,711	71,297	209,008	29,700	69,750	99,450	308,458	221,553	134,906
gas	663,180	147,481	115,585	263,066	36,300	85,250	121,550	384,616	173,179	118,029
gas as % total	41.4%	51.7%	61.8%	55.7%	55.0%	55.0%	55.0%	55.5%	43.9%	46.7%
Salt Creek	184,717	26,670	5,797	32,467	15,000	12,000	27,000	59,467	35,680	21,408
change (%)	-40.9%	-74.9%	-92.6%	-82.4%	n.a.	n.a.	n.a.	-67.8%	-40.0%	-40.0%
of which:										
oil	151,428	17,915	4,785	22,700	10,200	7,800	18,000	40,700	24,420	14,652
gas	33,289	8,755	1,012	9,767	4,800	4,200	9,000	18,767	11,260	6,756
gas as % total	18.0%	32.8%	17.5%	30.1%	32.0%	35.0%	33.3%	31.6%	31.6%	31.6%
Bright Rock	0	6,300	11,260	17,560	15,000	30,000	45,000	62,560	50,048	30,029
change (%)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-20.0%	-40.0%
of which:										
oil	0	4,790	8,562	13,352	10,950	21,000	31,950	45,302	36,242	21,745
gas	0	1,510	2,698	4,208	4,050	9,000	13,050	17,258	13,806	8,284
gas as % total	n.a.	24.0%	24.0%	24.0%	27.0%	30.0%	29.0%	27.6%	27.6%	27.6%
Total	3,492,340	566,000	409,671	975,671	281,160	416,772	697,932	1,673,604	2,194,582	2,653,137
change (%)	86.6%	15.3%	-65.9%	-42.3%	-72.6%	-46.0%	-61.3%	-52.1%	31.1%	20.9%
of which:										
oil	1,869,853	253,000	162,927	415,927	134,172	220,751	354,922	770,849	1,466,493	1,766,983
gas	1,622,487	313,000	246,744	559,744	146,988	196,022	343,009	902,754	728,090	886,154
gas as % total	46.5%	55.3%	60.2%	57.4%	52.3%	47.0%	49.1%	53.9%	33.2%	33.4%

Source: DRAG, First Berlin Equity Research estimates

Net producing wells at Cub Creek and Elster to rise by 69% over next two years Cub Creek completed drilling 11 2-mile lateral horizontal wells at its Olander pad earlier this month. The wells are currently being fracked and we expect production to begin in December. Cub Creek's working interest is 93%. Cub Creek and Elster accounted for over 90% of DRAG's net oil and gas production in H1/19. We calculate that Cub Creek and Elster are currently producing from a net (after deduction of partnership interests) 59.6 1-mile lateral equivalent wells. This figure will rise by 36% to 80.0 when the Olander pad goes into production. Cub Creek plans to drill a further 12 2.25-mile lateral horizontal wells at its Knight pad next year. Cub Creek's working interest will be 76%. These new wells will raise

the net number of producing wells to 100.6 - 69% above the current figure. We assume production at the Knight pad from January 2021.

Figure 3: Shift in oil futures curve since our 14 May note



Source: Bloomberg

Figure 4 below shows changes to our forecasts since our most recent note of 14 May. The changes mainly reflect the USD6 fall in the oil price at the near-term end of the futures curve shown in figure 3 above. This outweighs the positive impact of the partial impairment reversal at Cub Creek discussed above.

Figure 4: Changes to our forecasts

All figures in € 000s	2019E New	2019E Old	Δ	2020E New	2020E Old	Δ	2021E New	2021E Old	Δ
Revenues	44,425	49,667	-10.6%	75,904	84,621	-10.3%	86,220	99,039	-12.9%
EBITDA	29,845	32,647	-8.6%	57,681	62,763	-8.1%	67,693	75,700	-10.6%
Depreciation and amortisation	22,604	19,130	18.2%	31,901	30,669	4.0%	32,130	34,628	-7.2%
Operating income (EBIT)	7,241	13,518	-46.4%	25,780	32,095	-19.7%	35,563	41,072	-13.4%
Net financial result	-4,612	-4,599	n.m.	-4,670	-4,671	n.m.	-781	-698	n.m.
Pre-tax income (EBT)	2,629	8,918	-70.5%	21,110	27,423	-23.0%	34,782	40,375	-13.9%
Income taxes	0	0	n.m.	-4,433	-5,759	n.m.	-7,304	-8,479	n.m.
Net before minorities	2,629	8,918	-70.5%	16,677	21,664	-23.0%	27,478	31,896	-13.9%
Minority interests	-544	-1,699	n.m.	-2,866	-4,916	n.m.	-4,013	-7,238	n.m.
Net income after mins.	2,084	7,219	-71.1%	13,810	16,748	-17.5%	23,465	24,658	-4.8%
EPS (€)	0.41	1.43	-71.2%	2.73	3.31	-17.5%	4.64	4.87	-4.8%

Source: First Berlin Equity Research estimates

We maintain our Buy recommendation but lower the price target from €23.0 to €18.1

As figure 7 overleaf shows, our valuation of DRAG is now €18.1 per share (previously: €23.0). The reduction is mainly attributable to reductions in our enterprise valuation of Cub Creek and Elster by 16.2% and 7.3% respectively to reflect lower oil and gas prices. We have revised up our combined valuation of the Salt Creek and Bright Rock subsidiaries by 44.6% to €12m (10.1% of the enterprise valuation subtotal for the oil and gas activities).



This better reflects recent development work and their 17.3% share of DRAG's proven and probable reserves (according to the February 2019 Ryder Scott report).

Figure 5: DCF Valuation of Cub Creek Energy*

USD 000s	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Production (working interest): barrels of oil equivalent (000s)	859	1,714	2,349	1,375	1,445	1,139	953
Average oil price for period (WTI -USD/barrel)	56.90	56.90	77.40	77.40	77.40	77.40	77.40
No. 1 mile-lateral equivalent wells period end (working interest)	56.9	56.9	77.4	77.4	77.4	77.4	77.4
Net revenue (working interest after royalty and ad valorem tax)	25,299	66,748	85,060	44,666	40,496	31,702	26,537
EBITDA	16,470	51,091	67,018	32,875	28,176	21,364	17,404
Depreciation	13,632	23,802	29,666	17,879	13,799	10,589	8,704
EBIT	2,838	27,290	37,352	14,996	14,377	10,776	8,699
NOPLAT	2,242	21,559	29,508	11,847	11,358	8,513	6,873
Tax Rate (%)	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
CAPEX	50,000	54,340	0	0	0	0	0
Working capital expenditure	759	-2,929	-2,747	6,059	625	1,319	775
Free cashflow	-33,367	-11,908	56,427	35,785	25,782	20,421	16,352
PV free cashflow (12% discount rate)	-32,427	-10,333	43,717	24,754	15,924	11,261	8,051
Sum PV free cashflows	88,034						

Source: DRAG; First Berlin Equity Research estimates

Figure 6: DCF Valuation of Elster Oil & Gas*

USD 000s	2019E	2020E	2021E	2022E	2023E	2024E	2025E
Production (working interest): barrels of oil equivalent (000s)	693	395	253	156	135	119	107
Average oil price for period (WTI -USD/barrel)	56.73	55.04	52.70	52.07	52.24	52.67	53.09
No. 1 mile-lateral equivalent wells period end (working interest)	23.1	23.1	23.1	23.1	23.1	23.1	23.1
Net revenue (working interest after royalty and ad valorem tax)	20,691	13,424	7,869	4,332	3,745	3,329	3,015
EBITDA	13,564	9,819	5,926	2,997	2,598	2,248	1,988
Depreciation	9,537	9,609	4,228	2,598	2,242	1,982	1,782
EBIT	4,027	210	1,697	399	355	266	206
NOPLAT	3,181	166	1,341	315	281	210	163
Tax Rate (%)	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%	21.0%
CAPEX	0	0	0	0	0	0	0
Working capital expenditure	4,162	3,676	833	530	88	62	47
Free cashflow	16,881	13,451	6,403	3,444	2,611	2,255	1,992
PV free cashflow (12% discount rate)	16,405	11,672	4,960	2,382	1,613	1,243	981
Sum PV free cashflows	42,225						

Source: DRAG; First Berlin Equity Research estimates

* our valuation models for CCE and EOG extend to 2039 but for reasons of space we show numbers only out to 2025

Figure 7: Sum of the parts model

€m	New	Old	% Δ
DCF valuation Cub Creek Energy (DRAG's stake 88.5%)	70.8	84.5	-16.2%
DCF valuation Elster Oil & Gas (DRAG's stake: 93.0%)	35.7	38.5	-7.3%
DCF valuation Salt Creek Oil & Gas/Bright Rock Energy (DRAG's stakes: 100.0%/ 97.6%)	12.0	8.3	44.6%
Subtotal: US oil and gas activities	118.5	131.3	-9.7%
Almonty (12.8% equity stake plus promissory notes and debentures)	17.4	21.6	
Northern Oil and Gas	11.6	11.4	
Tin International (DRAG's stake: 74.1%)	1.0	1.5	
Rhein Petroleum (DRAG's stake: 10%)	3.0	3.0	
Ceritech (DRAG's stake: 63.7%)	1.5	1.0	
Devonian Metals (DRAG's stake: 47%)	0.0	0.0	
Hammer Metals (DRAG's stake: 12.63%)	0.7	0.6	
Holding company costs	-10.0	-10.0	
Total enterprise value	143.7	160.4	-10.4%
Cash and financial assets	35.4	45.4	
Debt	87.5	89.4	
Net debt	52.2	44.0	
Total equity value	91.6	116.4	-21.4%
No shares (m)	5.06	5.06	
Equity value per share (€)	18.1	23.0	-21.4%

Source: First Berlin Equity Research estimate



INCOME STATEMENT

All figures in € 000s	2016A	2017A	2018A	2019E	2020E	2021E
Revenues	9,170	53,746	109,052	44,425	75,904	86,220
Cost of purchased services	4	8,069	19,019	7,748	13,238	15,037
Personnel expenses	3,457	4,711	3,919	4,115	4,238	4,366
Net other operating income	665	-4,840	11,819	-2,718	-747	875
EBITDA	6,374	36,126	97,933	29,845	57,681	67,693
Depreciation and amortisation	6,915	30,822	58,037	22,604	31,901	32,130
Operating income (EBIT)	-541	5,304	39,896	7,241	25,780	35,563
Net financial result	-1,413	-4,011	-13,432	-4,612	-4,670	-781
Pre-tax income (EBT)	-1,953	1,293	26,464	2,629	21,110	34,782
Taxes	2,028	6,379	-8,520	0	-4,433	-7,304
Profit before minorities	75	7,672	17,944	2,629	16,677	27,478
Minority interests	28	-2,124	-4,072	-544	-2,866	-4,013
Net income / loss	103	5,548	13,872	2,084	13,810	23,465
EPS (in €)	0.02	1.10	2.74	0.41	2.73	4.64
Ratios						
EBITDA margin on revenues	69.5%	67.2%	89.8%	67.2%	76.0%	78.5%
EBIT margin on revenues	-5.9%	9.9%	36.6%	16.3%	34.0%	41.2%
Net margin on revenues	1.1%	10.3%	12.7%	4.7%	18.2%	27.2%
Tax rate	103.8%	-493.3%	32.2%	0.0%	21.0%	21.0%
Y-Y Growth						
Revenues	383.4%	486.1%	102.9%	-59.3%	70.9%	13.6%
Operating income	n.m.	n.m.	652.2%	-81.9%	256.0%	37.9%
Net income/ loss	-91.1%	5311.9%	150.0%	-85.0%	562.6%	69.9%



BALANCE SHEET

All figures in € 000s	2016A	2017A	2018A	2019E	2020E	2021E
Assets						
Current assets, total	51,874	42,502	75,860	65,496	65,095	39,956
Cash and cash equivalents	28,090	29,699	59,990	41,731	38,786	15,955
Inventories	139	170	156	1,188	1,315	1,200
Receivables	7,794	9,090	13,443	19,012	21,047	19,200
Prepayments	495	833	711	1,188	1,315	1,200
Other current assets	15,105	1,324	337	2,376	2,631	2,400
Deferred tax assets	251	1,386	1,223	0	0	0
Non-current assets, total	141,598	171,072	148,985	171,134	188,632	156,503
Intangible assets	40,614	33,837	16,932	15,932	14,932	13,932
Land and buildings	0	0	0	0	0	0
Producing oil plants	76,172	73,760	107,878	130,569	148,702	118,188
Exploration and evaluation	3,493	40,557	2,048	2,479	2,823	2,244
Plant and machinery	173	99	36	44	50	39
Other equipment	103	108	91	110	125	100
Equity investments	12,542	15,569	14,385	14,385	14,385	14,385
Loans to other investors	913	1,724	1,724	1,724	1,724	1,724
Securities classified as fixed assets	7,588	5,418	5,891	5,891	5,891	5,891
Total assets	193,472	213,574	224,845	236,630	253,727	196,458
Shareholders' equity & debt						
Current liabilities, total	33,904	31,121	38,912	37,035	118,099	37,403
Bank debt	0	55	16,086	0	0	0
Bond debt	0	15,741	0	0	77,099	0
Accounts payable	29,915	5,236	6,840	11,110	12,300	11,221
Other current liabilities	3,989	10,089	15,986	25,924	28,700	26,182
Long-term liabilities, total	75,243	90,780	77,299	93,099	16,000	16,000
Bond debt	66,705	66,599	66,599	77,099	0	0
Bank debt	8,538	24,181	10,700	16,000	16,000	16,000
Other long term liabilities	0	0	0	0	0	0
Provisions	5,308	27,997	19,312	2,000	2,000	2,000
Difference from capital consolidation	0	195	0	0	0	0
Minority interests	9,698	7,427	8,087	8,631	11,498	15,511
Shareholders' equity	56,423	49,248	65,750	80,379	90,645	110,059
Consolidated equity	66,121	56,675	73,837	89,011	102,142	125,570
Deferred tax liabilities	12,896	6,806	15,485	15,485	15,485	15,485
Total consolidated equity and debt	193,472	213,574	224,845	236,630	253,727	196,458
Ratios						
Current ratio (x)	1.53	1.37	1.95	1.77	0.55	1.07
Quick ratio (x)	1.53	1.36	1.95	1.74	0.54	1.04
Financial leverage	69.9%	132.6%	42.9%	55.8%	51.5%	-1.3%
Book value per share (€)	11.15	9.73	12.99	15.89	17.91	21.75
Net cash (debt)	-46,240	-75,153	-31,671	-49,644	-52,589	1,679
Return on equity (ROE)	0.1%	12.5%	27.5%	3.2%	17.4%	0.0%



CASH FLOW STATEMENT

All figures in € 000s	2016A	2017A	2018A	2019E	2020E	2021E
Net profit before minorities	74	7,672	17,944	7,241	25,780	35,563
Writedowns/writeups of fixed assets	6,874	30,500	59,637	22,604	31,901	32,130
Increase/decrease in provisions	4,232	-107	7,316	0	0	0
Changes in working capital	-5,809	-2,577	-889	5,091	1,421	-1,289
Gains/losses from disposal of fixed assets	1,310	-3	-15,132	0	0	0
Interest expense/income	1,413	4,012	6,227	-4,612	-4,670	-781
Tax paid/received	-2,028	-6,379	8,519	0	-4,433	-7,304
Income tax payments	3,752	11,317	218	0	0	0
Other	-6,904	-6,587	-15,166	0	0	0
Operating cash flow	2,914	37,848	68,674	30,324	49,999	58,319
Investment in property, plant equipment	-47,182	-49,733	-63,754	-44,753	-49,400	0
Investment in intangible assets	-18,916	-2,042	-2,454	0	0	0
Free cash flow	-63,184	-13,927	2,466	-14,429	599	58,319
Proceeds from disposal of intangible assets	2,878	57	38,391	0	0	0
Management of short term financial assets, other	24,429	453	-451	0	0	0
Investing cash flow	-38,791	-51,265	-28,268	-44,753	-49,400	0
Equity financing	1,241	-740	-493	0	0	0
Debt financing	39,233	33,072	15,241	-286	0	0
Debt repayment	-22,148	0	-30,239	0	0	-77,099
Interest paid	-3,981	-4,636	-6,925			
Dividends, share buybacks	-2,714	-2,961	-6,210	-3,544	-3,544	-4,050
Other	-115	0	0	0	0	0
Financing cash flow	11,516	24,735	-28,626	-3,830	-3,544	-81,149
Other	-19,175	-9,709	18,511	0	0	0
Change in cash and equivalents	-43,536	1,609	30,291	-18,259	-2,945	-22,831
FX/consolidation effects	585	0	0	0	0	0
Cash and cash equivalents, start of the year	71,041	28,090	29,699	59,990	41,731	38,786
Cash and cash equivalents, end of the year	28,090	29,699	59,990	41,731	38,786	15,955
EBITDA/share (in €)	1.26	7.14	19.35	5.90	11.40	13.38
Y-Y Growth						
Operating cash flow	144.1%	1198.8%	81.4%	-55.8%	64.9%	16.6%
Free cash flow	n.m.	n.m.	n.m.	n.m.	n.m.	9639.3%
EBITDA/share	29.9%	466.8%	171.1%	-69.5%	93.3%	17.4%

FIRST BERLIN RECOMMENDATION & PRICE TARGET HISTORY

Report No.:	Date of publication	Previous day closing price	Recommendation	Price target
Initial Report	22 July 2010	€7.45	Buy	€13.20
2...28	↓	↓	↓	↓
29	20 November 2018	€17.00	Buy	€24.00
30	19 March 2019	€18.40	Buy	€23.80
31	14 May 2019	€17.20	Buy	€23.00
32	Today	€13.85	Buy	€18.10

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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.

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

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