

Hypoport AG

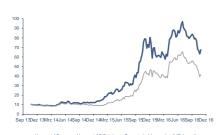
Buy → | Target 102.00 EUR

Price (11/25/2016): 67.53 EUR| Upside: 51 %

Est.chg 2016e 2017e

Roadshow confirms our positive view

Publication date 28.11.2016 08:50 Writing date 28.11.2016 08:47



| | lative to Property, | holdings, other fi (I | Rebased) |
|------------------------------|---------------------|-----------------------|----------|
| Capital | | | |
| HYQ GY HYQGn.DE | | | |
| Market Cap (EURm) | | | 414 |
| Enterprise value (EURm) | | | 400 |
| Extrema 12 months | | 53.59 | _ 97.00 |
| Free Float (%) | | | 56.1 |
| Performance (%) | 1m | 3m | 12m |
| Absolute | -12.6 | -18.1 | -12.9 |
| Perf. rel. Country Index | -12.4 | -18.2 | -3.1 |
| Perf. rel. Property, holding | -14.6 | -20.5 | -1.4 |
| P&L | 12/16e | 12/17e | 12/18e |
| Sales (EURm) | 155 | 173 | 190 |
| EBITDA (EURm) | 30.6 | 34.5 | 38.5 |
| Current EBIT (EURm) | 25.0 | 28.4 | 31.8 |
| Attr. net profit (EURm) | 20.0 | 23.2 | 26.1 |
| Adjusted EPS (EUR) | 3.25 | 3.79 | 4.26 |
| Dividend (EUR) | 0.00 | 0.00 | 0.00 |
| P/E (x) | 20.8 | 17.8 | 15.9 |
| P/B (x) | 5.7 | 4.3 | 3.4 |
| Dividend Yield (%) | 0.0 | 0.0 | 0.0 |
| FCF yield (%) | 2.2 | 4.8 | 5.2 |
| EV/Sales (x) | 2.58 | 2.16 | 1.86 |
| EV/EBITDA (x) | 13.1 | 10.8 | 9.2 |
| EV/Current EBIT (x) | 16.0 | 13.1 | 11.1 |
| Gearing (%) | -31 | -44 | -53 |
| Net Debt/EBITDA(x) | ns | ns | ns |

Next Events

Roadshow with CEO

We accompanied Hypoport's CEO Ronald Slabke on a roadshow last week in Paris. Overall, the roadshow confirmed our positive view on the stock (Buy, TP € 102.00).

Equity story intact

Driven primarily by the Financial Service Providers segment (Europace), earnings should benefit mid-term from i/ structural trends supporting the German housing market, ii/ Europace's strong position, which is attracting increasing volume, thereby leading to market share growth and rising economies of scale, and iii/ a highly scalable business model. Longer-term, further growth opportunities e.g. geographic growth and new markets such as insurance tech could drive the equity story.

Key takeaways

Market growth going forward: The company expects 5-10% growth in the mortgage market going forward. Management stated that it is confident Hypoport can outperform the market and aims at growing 10-20% per year going forward.

Strong Q4 2016 in Institutional Clients segment: Management stated that while the in 9M 2016 performance of the Institutional Clients segment was a disappointment (i.e. EBIT -25% yoy), it expects a strong Q4 in this segment. Also, going forward, management pointed out that demand for social housing is accelerating, but municipals are hesitant to invest, and this is currently driving up the backlog. In the not too distant future, however, this backlog should translate to additional business for Hypoport.

Threat of declining prices due to rising interest rates: Management stated that it does not see a significant threat from rising interest rates. In particular, it explained that in many areas in Germany buying an apartment with mortgage financing is currently still significantly cheaper than renting, i.e. financing costs for an apartment in Berlin that costs \in 3,000/sqm is about \in 3/sqm per month vs. rent costs of \in 10/sqm per month. Based on this example, even if financing costs were to double, buying an apartment with mortgage financing would still be significantly cheaper than renting it.

Continued on next page.

Buy, TP € 102.00

We reiterate our Buy recommendation and TP of \leq 102.00 (EPS CAGR 2015-18e: 17.4%). Our TP is based on a mortgage market CAGR of 1.5% and an increase in Europace's market share of 1pp per year. If we were to assume growth rates of the past 5 years, i.e. a market CAGR of 6%, and c.1.5pp market share growth per year, our fair DCF value per share would be \leq 167.84. Assuming zero growth and zero market share gains, we derive a fair value of \leq 65.89.

Dr. Oliver Pucker, CFA (Analyst) +49 (69) 92 05 48 27 oliver.pucker@oddoseydler.com

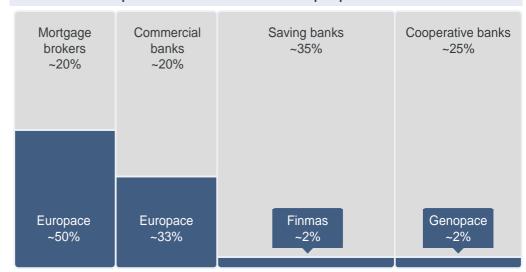
opinions given in the document reflect our appraisal at the time of publication and may therefore be revised at a later date.



Key takeaways (continued)

Breakdown of market share: From a sales side perspective, mortgage brokers and private banks each account for about 20% of overall mortgage volume in Germany, savings banks for 35%, and cooperative banks 25% (see graphic below). Europace's market share is 50% in the mortgage broker space, about 33% in the private banks space, and 2% each in the savings banks and cooperative banks spaces.





Source: Company data, Oddo Seydler Bank AG

In this market, Hypoport currently sees two major growth opportunities:

- (1) Commercial banks space: Europace as an IT outsourcing solution is currently used by Postbank (#1) and Bank Santander (#4). Management was very confident that other major German banks will follow since Europace can be significantly cheaper for banks than maintaining in-house operations. Used as a software-as-a-service solution, Europace saves banks the cost of developing (and continually updating) a proprietary platform. Economies of scale enable Hypoport to offer the software at a cheaper price compared to a self-developed software solution.
- (2) Savings banks/Cooperative banks: Management was also confident that it can grow its market share significantly within this market space. Hypoport's currently very small share of the mortgage business from the savings banks and cooperative banks (only ~2% each), suggests significant growth potential in these two spaces. Hypoport addresses these two market segments with two versions of Europace that have been customised for the savings banks and cooperative banks: Finmas provides the Europace platform to German savings banks (Sparkassen). There are about 420 regional savings banks in Germany. Hypoport reports that 124 or c.30% these 420 are connected to Finmas. Genopace is a customized version of Europace available only to Germany's cooperative banks (i.e. Volksbanken & Raiffeisenbanken). There are 1,046 cooperative banks in Germany. Hypoport reports that 146 cooperative banks or c.14% of the total cooperative banks are connected to Genopace.

Overall, while management was very confident of winning market share in these two market spaces, it also stated that it has only low visibility as to when this will happen because the decision to switch from a proprietary IT system to Europace is mainly driven by companies' internal politics and not economics (i.e. using Europace would be more cost effective). The company also stated that it would not be willing to give a discount on its 10bp transaction fee to get new players on board.

Effect of left coalition: In H2 2017 (likely in September) Germany will hold its next parliamentary elections. Angela Merkel will be running for her fourth term of office, but a possible alternative outcome would be a leftist government (e.g. a coalition of SPD, the Left and the Greens). This coalition would likely push for a further regulation of rents, i.e. capped rents. Management stated that it does not see capped rents as a major threat and pointed out that the rent controls enacted in July 2015 ('Mietpreisbremse') had a positive effect on real estate turnover (i.e. positive for Hypoport) due to investors selling objects where rent could not be increased sufficiently to meet their return thresholds.

Real estate appraisal business: Hypoport's overall goal with this new business is to capture a larger piece of the real estate value chain: When a real estate object is mortgage-financed, the



bank issuing the mortgage usually requires a valuation of the property. As an intermediary between the bank and the household, Hypoport wants to provide this service, also by monetizing its large data base on real estate transactions. According to management, the addressable market is about € 200m per year in Germany.

Management explained that four components are important for this business: (1) Data from real estate transaction to estimate the value of the property: Since Europace is the largest platform on the market, Hypoport already has a very large data base. (2) An algorithm to value property based on the characteristics of recent transactions in the area: Here Hypoport is currently working on developing this algorithm but also stated that an acquisition would be possible. (3) A team for physical inspection of the properties: Hypoport acquired a real estate valuation company on 1 July 2016 in an asset deal (here we assume the purchase price was below € 0.5m; financials were not disclosed). The new entity currently has about 50 employees.

CapEx spending: Hypoport spends about € 9m per year on developing its Europace platform. Management stated that about 2/3 of this CapEx is allocated to future business and only 1/3 for maintenance.

Europace 3: Hypoport is currently developing the third version of Europace, which will replace Europace 2 in about 5 years. In particular, the focus of Europace 3 will be (1) predicting credit scores of customers with a high reliability, and (2) estimating the probability of a closing with a particular customer to support the sales force to allocate its resources accordingly. Europace 3 will also likely have the option to close a mortgage contract purely online, i.e. without human-to-human interaction.

Main risk: As the main risk going forward management sees regulatory risks related to the mortgage market.

M&A: The company is currently working on acquisitions for its real estate appraisal business. This would be smaller acquisition in the lower single-digit €m range.



| HYQGn.DE HYQ GY | | Buy | | | | Price | 67.53EUR | |
|---|----------------------|----------------------|----------------------|-------------------|----------------------|-----------------------|-----------------------|-----------------------|
| Financial Services Germany | | Upside | 51.04% | | | TP | 102.00EUR | |
| PER SHARE DATA (EUR) | 12/11 | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| Adjusted EPS | 0.60 | -0.13 | 0.51 | 0.96 | 2.63 | 3.25 | 3.79 | 4.26 |
| Reported EPS | 0.60 | -0.13 | 0.51 | 0.96 | 2.63 | 3.25 | 3.79 | 4.26 |
| Growth in EPS(%) Net dividend per share | 13.2% 0.00 | ns 0.00 | ns 0.00 | 88.0% 0.00 | ns 0.00 | 23.8% 0.00 | 16.4% 0.00 | 12.5% 0.00 |
| FCF to equity per share | -0.10 | 0.20 | 0.67 | 0.37 | 3.24 | 1.49 | 3.25 | 3.53 |
| Book value per share | 5.01 | 4.81 | 5.34 | 6.29 | 8.68 | 11.79 | 15.57 | 19.83 |
| Number of shares market cap | 6.19 | 6.16 | 6.14 | 6.14 | 6.04 | 6.14 | 6.14 | 6.14 |
| Number of diluted shares VALUATION | 6.19 12/11 | 6.16 12/12 | 6.14 12/13 | 6.14 12/14 | 6.04 12/15 | 6.14 12/16e | 6.14 12/17e | 6.14 12/18e |
| 12m highest price | 11.95 | 12.15 | 10.46 | 13.78 | 80.50 | 97.00 | 12/170 | 12,100 |
| 12m lowest price | 6.95 | 6.95 | 7.03 | 8.67 | 12.16 | 53.59 | | |
| (*) Reference price | 9.42 | 8.94 | 8.27 | 11.01 | 33.28 | 67.53 | 67.53 | 67.53 |
| Capitalization | 58.4 | 55.1 | 50.7 | 67.6 | 201 | 414 | 414 | 414 |
| Restated Net debt Minorities (fair value) | 11.1 0.0 | 9.7 0.0 | 5.9 0.0 | 3.9 0.0 | -13.5 0.0 | -22.7 0.0 | -42.6 0.0 | -64.3 0.0 |
| Financial fixed assets (fair value) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Provisions | 2.5 | 1.9 | 0.5 | 1.0 | 2.1 | 8.1 | 2.1 | 2.1 |
| Enterprise Value | 72.0 | 66.7 | 57.1 | 72.5 | 190 | 400 | 374 | 352 |
| P/E (x) | 15.7 | ns | 16.1 | 11.4 | 12.7 | 20.8 | 17.8 | 15.9 |
| P/CF (x) | 6.4 0.0% | 58.8 0.0% | 5.2 0.0% | 4.4 0.0% | 5.7 0.0% | 13.0 0.0% | 13.7 0.0% | 12.4 0.0% |
| Net Yield (%) FCF yield (%) | 0.0% ns | 2.3% | 8.1% | 3.3% | 9.7% | 2.2% | 4.8% | 5.2% |
| P/B incl. GW (x) | 1.88 | 1.86 | 1.55 | 1.75 | 3.84 | 5.73 | 4.34 | 3.41 |
| P/B excl. GW (x) | 1.88 | 1.86 | 1.55 | 1.75 | 3.84 | 5.73 | 4.34 | 3.41 |
| EV/Sales (x) EV/EBITDA (x) | 0.85 6.3 | 0.76 8.2 | 0.58 7.0 | 0.65 5.7 | 1.36 7.6 | 2.58 13.1 | 2.16 10.8 | 1.86 9.2 |
| EV/EBIT (x) | 10.7 | 20.9 | 14.5 | 9.1 | 9.8 | 16.0 | 13.1 | 11.1 |
| (*) historical average price | | | | | | | | |
| PROFIT AND LOSS (EURm) | 12/11 | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| Sales EBITDA | 84 11.5 | 88 8.1 | 98 8.1 | 112 12.7 | 139 25.1 | 155 30.6 | 173 34.5 | 190 38.5 |
| Depreciations | -4.7 | -4.9 | -4.2 | -4.8 | -5.8 | -5.6 | -6.1 | -6.6 |
| Current EBIT | 6.8 | 3.2 | 3.9 | 7.9 | 19.3 | 25.0 | 28.4 | 31.8 |
| Published EBIT | 6.8 | 3.2 | 3.9 | 7.9 | 19.3 | 25.0 | 28.4 | 31.8 |
| Net financial income Corporate Tax | -0.7 -1.6 | -0.9 -0.4 | -0.9 0.1 | -0.7 -1.3 | -0.1 -3.2 | -0.6 -4.5 | -0.5 -4.8 | -0.4 -5.4 |
| Net income of equity-accounted companies | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Profit/loss of discontinued activities (after tax) | -0.7 | -2.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Minority interests | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Attributable net profit | 3.7 3.7 | -0.8 -0.8 | 3.1 3.1 | 5.9 5.9 | 15.9 15.9 | 20.0 20.0 | 23.2 23.2 | 26.1 26.1 |
| Adjusted attributable net profit BALANCE SHEET (EURm) | 12/11 | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| Goodwill | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Other intangible assets | 27.9 | 27.7 | 29.6 | 31.0 | 31.9 | 30.3 | 27.5 | 25.4 |
| Tangible fixed assets WCR | 2.5 12.4 | 2.6 10.7 | 2.2 6.9 | 2.2 9.0 | 2.6 4.9 | 2.5 17.4 | 2.3 23.7 | 2.0 30.6 |
| Financial assets | 2.2 | 0.5 | 0.9 | 1.6 | 1.9 | 1.9 | 1.9 | 1.9 |
| Ordinary shareholders equity | 31.0 | 29.6 | 32.8 | 38.6 | 52.4 | 72.4 | 95.6 | 122 |
| Minority interests | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 |
| Shareholders equity Non-current provisions | 31.3 2.5 | 29.8 1.9 | 33.1 0.5 | 38.9 1.0 | 52.7 2.1 | 72.6 2.1 | 95.9 2.1 | 122 2.1 |
| Net debt | 11.1 | 9.7 | 5.9 | 3.9 | -13.5 | -22.7 | -42.6 | -64.3 |
| CASH FLOW STATEMENT (EURm) | 12/11 | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| EBITDA | 11.5 | 8.1 | 8.1 3.7 | 12.7 | 25.1 | 30.6 | 34.5 | 38.5 |
| Change in WCR Interests & taxes | -4.4 -1.4 | 1.2 -1.5 | 3.7 -1.5 | -3.0 -1.3 | 2.9 -2.9 | -12.5 -5.1 | -6.3 -5.2 | -6.9 -5.7 |
| Others | -1.0 | -0.1 | -0.5 | 0.0 | 1.6 | 0.6 | 1.0 | 0.7 |
| Operating Cash flow | 4.7 | 7.8 | 9.9 | 8.4 | 26.7 | 13.7 | 24.0 | 26.6 |
| CAPEX | -5.3 | -6.5 | -5.7 | -6.2 | -7.1 | -4.5 | -4.1 | -4.9 |
| Free cash-flow Acquisitions / disposals | -0.6 -0.5 | 1.2 0.1 | 4.1 0.0 | 2.2 0.0 | 19.6 0.0 | 9.2 0.0 | 19.9 0.0 | 21.7 0.0 |
| Dividends | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Net capital increase | 0.0 | -0.6 | 0.0 | 0.0 | -2.3 | 0.0 | 0.0 | 0.0 |
| Others Change in not debt | -2.6 -1.1 | 0.4 0.7 | -1.4 4.2 | -1.2 1.9 | -4.6 17.3 | -1.1 9.2 | -1.1 19.9 | -1.1 21.7 |
| Change in net debt GROWTH MARGINS PRODUCTIVITY | 12/11 | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| Sales growth | 26.1% | 4.0% | 11.8% | 14.5% | 23.7% | 11.7% | 11.3% | 9.7% |
| Lfl sales growth | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Current EBIT growth | 5.1% 13.2% | -52.7% | 23.5% | ns 88.0% | ns | 30.0% 23.8% | 13.6% 16.4% | 11.9% 12.5% |
| Growth in EPS(%) Net margin | 4.4% | ns -0.9% | ns 3.2% | 5.3% | ns 11.4% | 12.9% | 13.4% | 13.8% |
| EBITDA margin | 13.6% | 9.3% | 8.3% | 11.3% | 18.0% | 19.7% | 20.0% | 20.3% |
| Current EBIT margin | 8.0% | 3.6% | 4.0% | 7.1% | 13.9% | 16.1% | 16.5% | 16.8% |
| CAPEX / Sales | -6.2% | -7.4% | -5.8% | -5.5% | -5.1% | -2.9% | -2.4% | -2.6% |
| WCR / Sales Tax Rate | 14.7% 25.8% | 12.2% 16.9% | 7.0% -3.3% | 8.0% 18.2% | 3.5% 16.9% | 11.2% 18.5% | 13.7% 17.0% | 16.1% 17.0% |
| Normative tax rate | -23.8% | -53.2% | -31.1% | -20.1% | -28.3% | -30.3% | -25.8% | 22.2% |
| Asset Turnover | 2.1 | 2.1 | 2.5 | 2.8 | 3.4 | 3.5 | 3.3 | 3.4 |
| ROCE post-tax (normative tax rate) | 20.8% | 11.7% | 13.0% | 23.6% | 60.6% | 72.9% | 69.0% | 44.5% |
| ROCE post-tax hors GW (normative tax rate) ROE | 20.8% 12.8% | 11.7% -2.7% | 13.0% 10.1% | 23.6% 16.6% | 60.6% 34.9% | 72.9% 32.0% | 69.0% 27.7% | 44.5% 24.1% |
| DEBT RATIOS | 12.6% | 12/12 | 12/13 | 12/14 | 12/15 | 12/16e | 12/17e | 12/18e |
| Gearing | 36% | 33% | 18% | 10% | -26% | -31% | -44% | -53% |
| Net Debt / Market Cap | 0.19 | 0.18 | 0.12 | 0.06 | -0.07 | -0.05 | -0.10 | -0.16 |
| Net debt / EBITDA EBITDA / net financial charges | 0.97 ns | 1.20 ns | 0.72 ns | 0.31 ns | ns ns | ns ns | ns ns | ns ns |
| | 113 | 113 | 113 | 113 | 113 | 113 | 113 | 113 |

Hypoport AG Monday 28 November 2016



Mention of conflicts of interest

Valuation method

Our target prices are established on a 12-month timeframe and we use three valuation methods to determine them. First, the discounting of available cash flows using the discounting parameters set by the Group and indicated on Oddo Securities' website. Second, the sum-of-the-parts method based on the most pertinent financial aggregate depending on the sector of activity. Third, we also use the peer comparison method which facilitates an evaluation of the company relative to similar businesses, either because they operate in identical sectors (and are therefore in competition with one another) or because they benefit from comparable financial dynamics. A mixture of these valuation methods may be used in specific instances to more accurately reflect the specific characteristics of each company covered, thereby fine-tuning its evaluation.

. Our stock market recommendations

Our stock market recommendations reflect the RELATIVE performance expected for each stock on a 12-month timeframe. Buy: performance expected to exceed that of the benchmark index, sectoral (large caps) or other (small and mid caps). Neutral: performance expected to be comparable to that of the benchmark index, sectoral (large caps) or other (small and mid caps). Reduce: performance expected to fall short of that of the benchmark index, sectoral (large caps) or other (small and mid caps).

- . The prices of the financial instruments used and mentioned in this document are the closing prices.
- All publications by Oddo Securities or Oddo Seydler concerning the companies covered and mentioned in this document are available on the research site: www.oddosecurities.com

Recommendation and target price changes history over the last 12 months for the company analysed in this report

| Date | Reco | Price Target (EUR) | Price (EUR) | Analyst |
|----------|---------|--------------------|-------------|------------------------|
| 22.09.16 | Buy | 102.00 | 83.29 | Dr. Oliver Pucker, CFA |
| 03.05.16 | Buy | 89.00 | 71.69 | Ivo Višić |
| 22.03.16 | Buy | 74.00 | 64.84 | Ivo Višić |
| 23.02.16 | Buy | 72.00 | 59.58 | Ivo Višić |
| 11.01.16 | Neutral | 77.00 | 73.68 | Ivo Višić |
| 02.11.15 | Buv | 64.00 | 56.00 | Ivo Višić |

| Recommendation split | | | | |
|------------------------------|-------|-----|---------|--------|
| | | Buy | Neutral | Reduce |
| Our whole coverage | (414) | 48% | 42% | 10% |
| Liquidity providers coverage | (154) | 51% | 44% | 6% |
| Research service coverage | (67) | 63% | 34% | 3% |
| Investment banking services | (38) | 66% | 32% | 3% |

Risk of conflict of interest:

| KISK OF CONTINCT OF INTEREST. | |
|---|-----|
| Investment banking and/or Distribution | |
| Has Oddo Group, or Oddo & Cie, or Oddo Seydler managed or co-managed in the past 12 months a public offering of securities for the subject company/ies? | No |
| Has Oddo Group, or Oddo & Cie, or Oddo Seydler received compensation for investment banking services from the subject company/ies in the past 12 months or expects to receive or intends to seek compensation for investment banking services from the subject company/ies in the last 12 months? | No |
| Research contract between Oddo group & the issuer | |
| Oddo & Cie and the issuer have agreed that Oddo & Cie will produce and disseminate investment recommendations on the said issuer as a service to the issuer | Yes |
| Liquidity provider agreement and market-making | |
| At the date of the distribution of this report, does Oddo Group, or Oddo & Cie, or Oddo Seydler act as a market maker or has Oddo Group or Oddo & Cie, or Oddo Seydler signed a liquidity provider agreement with the subject company/ies? | Yes |
| Significant equity stake | |
| Does Oddo Group, or Oddo & Cie, or Oddo Seydler own 5% or more of any class of common equity securities of the subject company/ies? | No |
| Does the subject company beneficially own 5% or more of any class of common equity of Oddo & Cie or its affiliates? | No |
| Disclosure to Company | |
| Has a copy of this report; with the target price and/or rating removed, been presented to the subject company/ies prior to its distribution, for the sole purpose of verifying the accuracy of factual statements? | No |
| Have the conclusions of this report been amended following disclosure to the company/ies and prior its distribution? | No |
| Additional material conflicts | |
| Is Oddo Group, or Oddo & Cie, or Oddo Seydler aware of any additional material conflict of interest? | No |
| | |

Statement of conflict of interests of all companies mentioned in this document may be consulted on Oddo & Cie's: www.oddosecurities.com

Hypoport AG Monday 28 November 2016



Disclaimer:

Disclaimer for Distribution by Oddo & Cie to Non-United States Investors:

This research publication is produced by Oddo Securities ("Oddo Securities"), a division of Oddo & Cie ("ODDO"), which is licensed by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the Autorité des Marchés Financiers ("AMF"), and/or by ODDO SEYDLER BANK AG ("Oddo Seydler"), a German subsidiary of ODDO, regulated by Bundesanstalt für Finanzdienstleistungsaufsicht ("BaFin").

The research, when distributed outside of the U.S., is intended exclusively for non-U.S. customers of ODDO and cannot be divulged to a third-party without prior written consent of ODDO. This document is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment.

This research has been prepared in accordance with regulatory provisions designed to promote the independence of investment research. "Chinese walls" (information barriers) have been implemented to avert the unauthorized dissemination of confidential information and to prevent and manage situations of conflict of interest. This research has been prepared in accordance with French and German regulatory provisions designed to promote the independence of investment research. The recommendation presented into this document is reviewed and updated at least following each Quarterly Report published by the issuer purpose of this Research Report.

At the time of publication of this document, ODDO and/or Oddo Seydler, and/or one of its subsidiaries may have a conflict of interest with the issuer(s) mentioned. While all reasonable effort has been made to ensure that the information contained is not untrue or misleading at the time of publication, no representation is made as to its accuracy or completeness and it should not be relied upon as such. Past performances offer no guarantee as to future performances. All opinions expressed in the present document reflect the current context and which is subject to change without notice. The views expressed in this research report accurately reflect the analyst's personal views about the subject

securities and/or issuers and no part of his compensation was, is, or will be directly or indirectly related to the specific views contained in the research report.

This research report does not constitute a personal recommendation or take into account the particular investment objectives, financial situations, or needs of individual clients. Clients should consider whether any advice or recommendation in this research is suitable for their particular circumstances and, if appropriate, seek professional advice, including tax advice.

Disclaimer for Distribution by Oddo New York to United States Investors:

This research publication is produced by Oddo Securities, a division of ODDO and/or by Oddo Seydler.

This research is distributed to U.S. investors exclusively by Oddo New York Corporation ("ONY"), MEMBER: FINRA/SIPC, and is intended exclusively for U.S. customers of ONY and cannot be divulged to a third-party without prior written consent of ONY. This document is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment.

This research has been prepared in accordance with regulatory provisions designed to promote the independence of investment research. "Chinese walls" (information barriers) have been implemented to avert the unauthorized dissemination of confidential information and to prevent and manage situations of conflict of interest. This research has been prepared in accordance with French and German regulatory provisions designed to promote the independence of investment research.

At the time of publication of this document, ODDO and/or Oddo Seydler, and/or one of its subsidiaries may have a conflict of interest with the issuer(s) mentioned. While all

reasonable effort has been made to ensure that the information contained is not untrue or misleading at the time of publication, no representation is made as to its accuracy or completeness and it should not be relied upon as such. Past performances offer no guarantee as to future performances. All opinions expressed in the present document reflect the current context and which is subject to change without notice.

Rule 15a-6 Disclosure:

Under Rule 15a-6(a)(3), any transactions conducted by ODDO and/or Oddo Seydler, and/or one of its subsidiaries with U.S. persons in the securities described in this foreign research must be effected through ONY. As a member of FINRA, ONY has reviewed this material for distribution to U.S. persons as required by FINRA Rules 2241(h) applicable to dissemination of research produced by its affiliate ODDO.

FINRA Disclosures:

- Neither ONY, ODDO, nor Oddo Securities, nor Oddo Seydler beneficially owns 1% or more of any class of common equity securities of the subject company.
 The research analyst of Oddo Securities or Oddo Seydler, at the time of publication of this research report, is not aware, nor does he know or have reason to know of any actual, material conflict of interest of himself, ODDO, Oddo Securities, Oddo Seydler or ONY, except those mentioned in the paragraph entitled "Risk of Conflict of Interest."
- · Oddo Securities or ODDO or Oddo Seydler may receive or seek compensation for investment banking services in the next 3 months from the subject company of this research report, but ONY would not participate in those arrangements.
- Neither ONY, ODDO, Oddo Securities, nor Oddo Seydler has received compensation from the subject company in the past 12 months for providing investment banking services except those mentioned in the paragraph of "Risk of Conflict of Interest".
- Neither ONY., ODDO, Oddo Securities nor Oddo Seydler has managed or co-managed a public offering of securities for the subject company in the past 12 months except those mentioned in the paragraph of "Risk of Conflict of Interest"
- · ONY does not make (and never has made) markets and, accordingly, was not making a market in the subject company's securities at the time that this research report was published.

Regulation AC:

ONY is exempt from the certification requirements of Regulation AC for its distribution to a U.S. person in the United States of this research report that is prepared by an Oddo Securities research analyst because ODDO has no officers or persons performing similar functions or employees in common with ONY and ONY maintains and enforces written policies and procedures reasonably designed to prevent it, any controlling persons, officers or persons performing similar functions, and employees of ONY from influencing the

activities of the third party research analyst and the content of research reports prepared by the third party research analyst.

Contact Information of firm distributing research to U.S. investors: Oddo New York Corporation, MEMBER: FINRA/SIPC, is a wholly owned subsidiary of Oddo & Cie; Philippe Bouclainville, President (pbouclainville@oddony.com) 150 East 52nd Street New York, NY 10022 212-481-4002.