Further information on valuation methodology

Company valuations are in principle based on the following valuation methods: Multiple-based models, peer group comparisons, discount models, break-up value approaches, asset-based valuation methods as well as economic profit-based models.

1. **Multiple-based models**
   Multiple-based models are models using one or more specific valuation multiples (e.g. P/E, P/Cash flow, EV/Sales, EV/EBIT, EV/EBITA, EV/EBITDA). A valuation multiple is an expression of market value relative to a key statistic that is assumed to relate to that value. That statistic must bear a logical relationship to the market value observed or is seen as the driver of that market value.

2. **Peer group comparisons**
   A peer group comparison is based on a comparison of the company being valued with other companies within the same peer group. In some cases, trading multiples and /or transaction multiples may also be considered appropriate. A peer group is a group of companies which – based on certain statistics – is considered as being sufficiently comparable to the company which is being valued.

3. **Discount models**
   Discount models are using estimated future key statistics of the company being valued and discounting them back to the present value. The most commonly used discount models are the Discounted Cash Flow Model (DCF) and the Dividend Discount Model (DDM). In a DCF model, all future cash flows of the company are estimated and discounted to their present value by using the respective cost of capital. In a DDM model, the same mechanism is applied based on expected future dividend payments of the company, which is valued net profits and payout ratio to arrive at a specific equity value.

4. **Break-up value approaches**
   Break-up value approaches are also referred to as sum-of-the-parts analysis. Break-up value approaches or sum-of- the-parts analysis provide a value for a company’s equity by aggregating the value of its individual segments to arrive at a total enterprise value for the company being valued. The equity value of such company is then derived by deducting the company’s debt and other liabilities.

5. **Asset-based valuation methods**
   Asset-based valuation methods focus on the net asset of the company which is being valued. Such methods are typically used to value real estate companies or companies with a high proportion of real estate ownership or other companies, which profits primarily depend on the assets they hold. The net asset value (NAV) is calculated by reference to the total value of the assets of the company being valued less its total liabilities.

6. **Economic profit models**
   An economic profit model is used in general to demonstrate whether the company which is valued is able to add value to the existing net asset valuation or not. The economic profit model is based on an estimated Return on Capital Employed (ROCE) or Weighted Average Cost of Capital (WACC) and a terminal value.

Valuation models (including the underlying assumptions) are dependent on macroeconomic factors such as interest rates, exchange rates and raw material prices, and on assumptions about the economy. Furthermore, market sentiment affects the valuation of companies. The valuation is also based on expectations that might change rapidly and without notice, depending on developments specific to individual companies or industries. Any analysts' recommendations and target prices are derived from the models used and might therefore change as a result of the use or development of different models.