**Task Functionality (Clarification Needed)  
  
1. Authentication Flow**  
   - Should users register/login to use the tool?  
**Comment:**There is only one user, but you can for security make login. Use password as security

**2. Stock Coverage**  
**Comment:**  
All the stocks via Borsdata.

**3. Stock Indices for Comparison**  
   - Which indices to include? (e.g., OMXS30, S&P500, DAX, OSEBX)  
**Client Comment:**  
The most common indice on the actual stock exchange. If doubt, pick one of the most used indices for the actual stock exchange  
  
  
**4. KPI List**  
   - Provide the list of ~50 KPIs  
**Comment:**  
  
Whichever of the following KPIs available at Borsdata (and later at Refintiv or Bloomberg)

|  |  |  |  |
| --- | --- | --- | --- |
| **#** |  | **KPI** |  |
| 1 |  | **Earnings Per Share (EPS)** | Profit attributable to each common share. |
| 2 |  | **Diluted EPS** | EPS assuming all dilutive securities convert. |
| 3 |  | **Price-to-Earnings (P/E)** | How much investors pay per dollar of earnings. |
| 4 |  | **Forward P/E** | P/E based on next-year’s consensus EPS. |
| 5 |  | **PEG Ratio** | P/E adjusted for expected earnings growth. |
| 6 |  | **Dividend Yield** | Annual dividend as a % of share price. |
| 7 |  | **Dividend Payout Ratio** | % of earnings distributed as dividends. |
| 8 |  | **Return on Equity (ROE)** | Net income generated per dollar of equity. |
| 9 |  | **Return on Assets (ROA)** | Net income generated per dollar of total assets. |
| 10 |  | **Return on Invested Capital (ROIC)** | Profit after tax relative to debt+equity capital employed. |
| 11 |  | **Gross Profit Margin** | Gross profit as a % of revenue. |
| 12 |  | **Operating Margin** | Operating income as a % of revenue. |
| 13 |  | **Net Profit Margin** | Net income as a % of revenue. |
| 14 |  | **EBITDA Margin** | EBITDA as a % of revenue. |
| 15 |  | **EBIT Margin** | EBIT as a % of revenue. |
| 16 |  | **Revenue Growth Rate** | Year-over-year change in sales. |
| 17 |  | **EPS Growth Rate** | Year-over-year change in EPS. |
| 18 |  | **Free Cash Flow (FCF)** | Operating cash flow minus capital spending. |
| 19 |  | **Free Cash Flow Yield** | FCF divided by market cap. |
| 20 |  | **Cash Conversion Ratio** | FCF ÷ net income—quality of earnings. |
| 21 |  | **Debt-to-Equity Ratio** | Leverage relative to shareholder equity. |
| 22 |  | **Net Debt-to-EBITDA** | Leverage adjusted for cash and operating profit. |
| 23 |  | **Interest Coverage Ratio** | EBIT or EBITDA divided by interest expense. |
| 24 |  | **Current Ratio** | Short-term assets vs. short-term liabilities. |
| 25 |  | **Quick Ratio** | Current ratio excluding inventories. |
| 26 |  | **Days Sales Outstanding (DSO)** | Average days to collect receivables. |
| 27 |  | **Days Inventory Outstanding (DIO)** | Average days inventory is held. |
| 28 |  | **Days Payable Outstanding (DPO)** | Average days to pay suppliers. |
| 29 |  | **Cash Conversion Cycle (CCC)** | DSO + DIO – DPO; working-capital efficiency. |
| 30 |  | **Asset Turnover** | Revenue generated per dollar of assets. |
| 31 |  | **Inventory Turnover** | Cost of goods sold ÷ average inventory. |
| 32 |  | **Book Value Per Share (BVPS)** | Equity per common share. |
| 33 |  | **Tangible BVPS** | BVPS excluding intangibles/goodwill. |
| 34 |  | **Market Capitalization** | Total equity market value. |
| 35 |  | **Enterprise Value (EV)** | Market cap + net debt + minorities, etc. |
| 36 |  | **EV/EBITDA** | Enterprise value relative to EBITDA. |
| 37 |  | **EV/Sales** | Enterprise value relative to revenue. |
| 38 |  | **Beta** | Stock’s systematic risk vs. the market. |
| 39 |  | **52-Week Price Range** | Highest and lowest price over the last year. |
| 40 |  | **Average Daily Volume** | Typical number of shares traded per day. |
| 41 |  | **Short Interest Ratio** | Short interest divided by average daily volume. |
| 42 |  | **Insider Ownership %** | Portion of shares held by company insiders. |
| 43 |  | **Institutional Ownership %** | Portion of shares held by funds & institutions. |
| 44 |  | **Total Shareholder Return (TSR)** | Price appreciation plus reinvested dividends. |
| 45 |  | **Sharpe Ratio** | Risk-adjusted excess return per unit of volatility. |
| 46 |  | **Alpha** | Return above (or below) benchmark expectation. |
| 47 |  | **Price-to-Free Cash Flow (P/FCF)** | Share price relative to FCF per share. |
| 48 |  | **Price-to-Book (P/B)** | Market price versus book value per share. |
| 49 |  | **Price-to-Sales (P/S)** | Market price versus revenue per share. |
| 50 |  | **Operating Cash Flow Per Share (OCFPS)** | Operating cash flow divided by shares outstanding. |

**5. Historical Time Range**  
**Comment:**

The longer the better. If only 30 years, you can start 1.1.1995.

**6. Data Filters Needed**  
   -   
**Comment:**

1. Date / Quarter Range

   • Start quarter and end quarter selectors (YYYY-Qx).

   • Option to pick “last N quarters” quickly (e.g., last 4, 8, 12 quarters).

   • Ability to offset fiscal years vs. calendar years when required.

2. KPI Selection & Thresholds

   • Multi-select list of all ~50 KPIs.

   • For each selected KPI let me set:

        – Absolute threshold (e.g., EPS > 2.50, ROE ≥ 15 %).

        – Relative threshold (e.g., EPS YoY Δ ≥ 10 %).

        – Direction flag (positive, negative, or either).

   • Trend filters:

        – “≥ N consecutive quarters of growth” (\*growth = positive QoQ change\*).

        – “Negative-to-positive transition within last N quarters,” optionally

          followed by ≥ M quarters of growth.

3. Logical Combinations

   • Support AND / OR groups with parentheses so I can write

     `(P/E < 10 AND ROE ≥ 15 %) OR (EV/EBITDA < 6 AND Net Debt/EBITDA < 0)`.

   • UI should let me build these visually (no raw SQL).

4. Stock-Level Metadata Filters

   • Region / Country / Exchange.

   • GICS Sector & Industry (multi-select).

   • Market-cap bands (min, max, preset “Large-cap”, “Mid-cap”, etc.).

   • Index membership flags (e.g., S&P 500, OSEBX).

5. Data Quality Filters

   • Exclude equities with missing values in the chosen quarters.

   • Option to require a minimum data history length (e.g., at least 20 quarters).

6. Output Controls

   • Sorting (e.g., by CAGR of chosen KPI, market cap, ticker).

   • Ability to save / load named filter presets.

   • Export results to Excel.

7. Performance Hints (Nice-to-Have)

   • Server-side pagination for large result sets.

   • Caching recent queries.

EXAMPLE QUERIES WE MUST SUPPORT

   1. Stocks whose \*\*EPS turned positive\*\* within the last 4 quarters \*\*AND\*\*

      kept growing (QoQ) for at least 3 consecutive quarters.

   2. Stocks with \*\*eight straight quarters\*\* of \*\*Revenue YoY growth ≥ 5 %\*\*

      \*\*AND\*\* \*\*Net Debt/EBITDA ≤ 0\*\* at the latest quarter.

   3. Latest-quarter \*\*ROE ≥ 15 %\*\*, \*\*P/E ≤ 12\*\*, sector = “Financials”,

      region = “North America”.

**7. Excel Export Format**

**Comment:**

The selection made (after filtering) in the python program should be transferred to excel  
  
  
  
**API Integration Scope**

**8. Borsdata Integration**

**Comment:**

All stocks, all tickers in Borsdata should be included

**9. Bloomberg/Refintiv Integration (LATER)**   
**Comment:**

Bloomberg or Refintiv-API are yet to be decided