PMS
Sustainability Management System
On 31 January 2018, the High-Level Expert Group (HLEG) on Sustainable Finance appointed by the European Commission presented its final report setting out strategic recommendations for implementing a European financial system that supports sustainable investments.

How does sustainability affect us?
We have the solution.

On 8 March 2018, the European Commission adopted an action plan on financing sustainable growth. Measures include the introduction of an “EU taxonomy (classification system) for sustainable activities”.

The European Commission’s aim is to “embed the future EU sustainability taxonomy in EU law and provide the basis for using such a classification system in different areas (e.g. standards, labels, green supporting factor for prudential requirements, sustainability benchmarks).”

The European Commission additionally plans to create “standards and labels for sustainable financial products” e.g. a EU green bond standard.

The **PMS Sustainability Management System** is ready for these EU requirements: It assists you in the classification of your investments in line with the planned EU taxonomy and provides an overview of your investments that comply with the EU standards.

**We offer four different methods to examine a company’s or a fund’s sustainability and to assign a scoring:**

1. Questionnaires dealing with products, energy consumption (electricity, water, gas ...) etc.
2. Well-known ESG sustainability indices serve as basis
3. EU taxonomies are taken into account
4. Automatic scoring and updates of large-scale holdings and funds
Your benefits

PMS Sustainability Management System

◊ assigns ESG ratings which then serve as a basis for your investment strategy
◊ is able to represent fulfilment of the ESG criteria in comparison to a peer group
◊ represents ESG sustainability criteria in accordance with EU taxonomies
◊ assists you in capturing relevant information swiftly using a sustainability dashboard, so you can see at a glance which legal framework and which ESG criteria are responsible for this rating
◊ offers support for reports/evaluations based on graphical and tabular representations
◊ provides a flexible framework, i.e. you decide according to which ESG criteria the ratings should be assigned
◊ provides access via a server client architecture which grants mobile browser access at any time
◊ provides an OLAP technology-based dashboard
◊ will shortly also include ratings for ESG derivatives which can be used for hedging
Definition and requirements

According to Wikipedia, “Sustainability is the process of change, in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.” “The name sustainability is derived from the Latin sustinere (tenere, to hold; sub, under). Sustain can mean “maintain”, “support”, or “endure”.”

The term “sustainability” has been used recently by the financial industry and is being used especially now against the background that investors (should) base their ratings of companies and their issued securities or funds on sustainability criteria when deciding on an investment and/or a business relationship.

The “Guidelines for non-financial reporting” released by the EU Commission on 5 July 2017 specifies the areas for sustainability assessment, allowing for a certain degree of flexibility regarding the details. These guidelines put special emphasis on how “risk” and non-financial reporting should be understood, defining them in a separate section of the progress report complementary to the annual financial statement. This includes fundamental risks resulting from one’s own business activities and risks arising from products and services e.g. in capital companies or among issuers.

Sustainability Rating

Sustainability measured by means of ratings is understood as a supplement to the financial status and to the rating of investment securities.

Sustainability ratings look at so-called hard facts (quantitative criteria) and soft facts (qualitative criteria).

<table>
<thead>
<tr>
<th>Hard facts (quantitative criteria)</th>
<th>Soft facts (qualitative criteria)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results, key figures and risks resulting from the market valuation of the investments or from the annual financial statement</td>
<td>Sustainability assessment based on selected criteria in groups</td>
</tr>
</tbody>
</table>
ESG Criteria

Classic ESG criteria are Environmental, Social and Governance which are divided into subgroups and/or may overlap such as employee diversity, anti-discrimination policy, commitment in critical countries, anti-corruption policy, anti-money laundering policy, environmental policy, environmental and social standards in credit business etc.

The ability of companies to measure and manage ESG risks and chances of development, is crucial for their competitiveness, long-term profitability and ultimately for their appeal to investors. The effects of how a company deals with ESG-related topics often have a direct influence on the quality of the management and organisation structures as well as on its flexibility.

A company on the other hand might also receive a negative ESG rating as “controversy”. A high “controversy” rating corresponds to a so-called “exclusion criterion” and is applied to a company that produces controversial products or adopts controversial practices, like a producer of thermal coal for instance or a company that participates in controversial arms production.

The importance attached to so-called non-financial reporting (which also includes sustainability reporting) in the European finance industry and corporate landscape has recently increased considerably. This applies to the implementation of company-specific ESG criteria on the one hand and close monitoring of meeting these criteria on the other hand. The requirements on the company executives as well as on the supervisory boards have increased accordingly.

Any sustainability information may additionally be reviewed by annual auditors – be it on a voluntary or mandatory basis. This is to strengthen the confidence in the data communicated on the market.

A reliable and practical data foundation is essential for creating a sustainability rating.
**Problem of time lags**

Diamond The factors (soft facts and hard facts) to be applied for a sustainability rating are subject to constant changes. A rating system based on key figure analyses is unable to provide a real-time representation of such current developments which naturally only manifest themselves in the company data with a time lag, so a sustainability management system in the sense of a rating should include a supplementary reporting that companies to be rated must use to communicate relevant current developments to the information receiver.

Diamond Only this type of combination of a rating system on the one hand and reporting beyond a rating system on the other hand ensures that the decision makers can base their decision for or against an investment and/or whether or not to enter into a business relationship on complete and up-to-date information.

**Dispute management**

Diamond What should not be forgotten is that in practice the companies or funds to be rated might have difficulties in providing information.

Diamond If these difficulties can be attributed to negligence – e.g. up-to-date information is provided with a delay or not at all or other reporting obligations are not met, a corresponding communication process has to be initiated.

*It may be helpful if this process is guided and moderated by independent and experienced persons.*
PMS Sustainability Management System

A sustainability management software facilitates the creation of sustainability ratings, the computation of key figures and risks as well as a sustainability management, all of which are covered by the web-based application of PMS (Portfolio and Risk Management System) and web browser clients for sustainability rating and for company monitoring purposes.

◊ Aim of the application
  ◊ To offer assistance for a comprehensive analysis, assessment and monitoring of individual and flexible sustainability-relevant investment strategies.
  ◊ To create sustainability ratings

◊ Required functionalities of the application
The main tasks of the system include historicisation on a centralised database:
  ◊ Rating assignment, analysis and monitoring of partners and issuers with respect to corporate behaviour in Environment, Social and Governance (ESG) and other categories
  ◊ Calculation or pre-calculation of the factors (hard & soft facts) from raw data and their weightings:

  Hard facts (quantitative criteria)
  Calculation of financial key figures and simulation of risks (Value-at-Risk) and chances (future returns) of issuers’ securities or contracts with business partners as well as

  Soft facts (qualitative criteria)
  Determination of suitable individual and adjustable subfactors of the ESG criteria for each company segment

◊ Sources for the ESG factors include public reports such as annual, semi-annual and quarterly reports, proxy statements, environmental reports as well as corporate governance, remuneration and sustainability reports of the companies.
PMS Sustainability Management System (continued)

- Merging of factors and definition of ratings based on rules within an inference system of rules, calculating probabilities of loss and loss amounts
- The rating is computed as follows:
  - Screening and selection of sustainable data, determination of the relevant contributions and their weightings
  - Raw data collection, key figure (KPIs (Key Performance Indicators)) creation, valuation of key figures, ratios and scenarios
  - Weighting the information by industry relevance and core factors
  - Sustainability rating process complies with rating rules
  - Positioning of the company according to region, country or worldwide
  - Representation, aggregation and reporting of the assessment results on contract and portfolio level with regard to whether the selected ESG criteria are fulfilled or not
- Creation of OLAP dashboards and reports

Excerpt from a dashboard representation for a company report including sustainability rating of sub-indicators
ESG Scenarios

The “ESG Rating Manager” sustainability management system implemented in PMS can also be used to represent ESG scenarios. ESG scenarios are available for a rating either based

◊ on ESG taxonomies (questionnaire)

or also

◊ on suitable ESG indices

In the case of ESG taxonomies, the weight as well as the risk value of a given ESG rating can be modified by +/- % for E(nvironmental), S(ocial) and G(overnance).

Example: E is modified by –20 %, S by –10% and G by –20 %.

It is possible to change the weight percentage by mapping the ratings to corresponding ESG indices. This is based on the assumption that the mapping of the object to be rated to the corresponding ESG indices will change by +/- % in the future.
Generating results

The facts (hard & soft facts) described on page 4 form the raw data for the rating and are incorporated in a hierarchical system of rules for the rating computation, where they move through an inference chain:

- The financial key figures (e.g. return, debt…) are computed from the raw data (e.g. balance sheet data, profit & loss etc.).
- The financial key figures are calibrated on a standard scale (between -1 and +1 for example).
- Various indicators (such as competitiveness, management quality…) are grouped according to non-linear weightings for the creation of core factors (e.g. stable growth or environment protection).
- The rating result then takes the computed core factors (criteria) into account, where exceptional facts (criteria for exclusion such as splendid returns but too high carbon dioxide emissions) may affect the result as well.

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Exemplary setting and the corresponding dialogue for a survey with weightings and assessment of:

- Subfactor Board Structure/ Executive Management
- Subfactor Information Staff
Dashboard representation of the ESG Rating Manager, based on ESG indices (rating of the sustainability by means of ESG indices)

Mapping between a company's time series and time series of ESG indices
Dashboard Representation Example

All results of the ESG Rating Tool will be documented and provided in standard reports which can be customised easily to specific customer needs on request.

The reports can be added to the PMS web portal and distributed internally and to interested persons (e.g. investors).

Daimler AG

Serial Number: DAI.DE
Currency: EUR
Position ID: DAI.DE
Depot ID: ESG

Nachhaltigkeitsrating

Total ESG
Environment
Social
Governance
Controversy

Entwicklung des Nachhaltigkeitsratings

Nachhaltigkeitskategorien

ECPI Emerging Markets ESG Equity
DJ Sust.150 Free Carbon Eff. Select
Developed Markets Ex-US Environment Best Practice
S&P Int. Environmental & Socially Responsible Index
Dow Jones Sustainability Asia Pacific Ex-Alcohol

Dashboard representation for a company report including sustainability and core factor rating
EU Taxonomy-based ESG Screening and Rating Platform

Based on information at hand today, the expected EU Taxonomy will define six environmental objectives:

1. Climate protection
2. Adjustment to climate change
3. Sustainable way of using and protecting water and ocean resources
4. Transition to circular economy, waste avoidance and recycling
5. Prevent and reduce environmental pollution
6. Maintain healthy ecosystems

These environment goals are to be achieved by implementing specific measures in line with the NACE (Nomenclature statistique des activités économiques dans la Communauté européenne) economic activities and examined using a list of questions that is not visibly stored.

The figure below illustrates a sample company stored on the ESG Screening and Scoring Platform using one or several projects including the relevant NACE economic activities (three in this case).
The figure below illustrates how a company’s economic activities are represented:

- On four hierarchical levels using one or several projects which again are classified according to one or several NACE economic activities
- The NACE economic activities are weighted by sales figures or Opex (Operational Expenditure) based on the EU Taxonomy structure
- Each NACE economic activity (three in this case) has an impact on four climate-related sectors (see diagram below) and their breakdown into a total of 28 subsectors.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Subsector</th>
<th>Relevant</th>
<th>Not Relevant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Energy</td>
<td>Acute</td>
<td>Yellow</td>
<td>Orange</td>
</tr>
<tr>
<td>Thermal</td>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>Chronic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Screening criteria have been defined for each NACE economic activity and for each climate-related sector, which are queried using a given questionnaire (see figure):

- Check of specific key point indicators (KPI) within the questionnaire for each NACE economic activity grouped by climate-related sectors
- Chronical and acute screening criteria
- Stop or adjustment to climate change
- Quantitative test of data or key figures in comparison to threshold values (e.g. CO₂ emissions)

Questionnaires for the screening criteria (single questions) of a NACE economic activity: A questionnaire is created for each NACE economic activity, broken down into several questions within the relevant climate-related sectors.
**Automatic Best-in-Class Scoring using the Asset4 ESG Database**

The scoring procedure implemented in the “ESG Rating Manager” is based on an automatic mapping to the Best-in-Class ESG scorings of the Asset4 ESG database by Refinitiv or other data providers that can provide structured scoring values for internationally operating companies, and is a suitable solution for an automatic ESG scoring of large-scale holdings, during an over-night batch run for example.

The ESG scoring procedure steps (see also graphical representation below):

1. The ESG scoring values for Environment (E), Social (S), Governance (G), Controversy and their subgroups are imported on a regular basis from databases such as Asset4 ESG database, CPD, Bloomberg into the platform tables. The Asset4 ESG database comprises scoring values of approx. 9,000 big companies worldwide which are grouped according to a hierarchical industrial sector classification (e.g. Dow Jones).

2. In the EU Taxonomy, mapping of the data imported and classified under 1 is based on the NACE economic activity. The EU Taxonomy specifies the relevant correspondences, e.g. Dow Jones, super sector level 1 to 3 to the NACE classification.

3. Based on all data of the 9,000 big companies, weighted benchmarks evolve from grouping through a NACE Best-In-Class classification in order to provide NACE-related ESG scorings.

4. The companies to be rated are mapped to the benchmarks obtained under 3 on the basis of their NACE economic activities in accordance with the EU Taxonomy. The companies subsequently adopt the ESG scorings of the benchmarks. Poor Controversy scorings lower the ESG scorings.

5. During the aggregation of the company scores, the ESG scorings for each NACE economic activity are weighted by their sales figures or Opex in line with the corporate structure (economic projects and activities, see figure below).

6. The reports can be presented in standard and in customised reports.
If a company has several projects of an identical NACE economic activity and belongs to one sector, it will be mapped to a benchmark (see 3).

The final scoring data and their weights per E | S | G from the Asset4 ESG database are exemplified in the illustration of calculation of pillar scores below: The pillar weights are used to weight the criteria during the main criterion aggregation.
Our profile

Much-Net AG is specialised on the sales, maintenance and development of standard software for the evaluation and management of financial products. The core of development is the implementation of finance-mathematical methods and models. The standard software solution PMS (Portfolio and Risk Management System) has been developed by Much-Net itself and is a modular software system that is characterised by broad and deep functionalities for an extensive range of financial instruments. The system’s scopes of application are the front, middle and back office.

PMS is being used successfully across Europe and does not only form the basis for in-house installations which have been provided by the company for several decades, but also for Much-Net’s outsourcing services. The PMS standard software solution is independent with regard to its platform, i.e. it does not depend on specific operating system and database producers.

Owing to its corporate and financial structure, Much-Net is completely independent as regards its decisions and the provision of services.

The above factors are decisive for our flexibility in meeting our customers’ individual needs.

If this brochure has aroused your interest, our sales team will gladly assist you in the implementation and realisation of your plans!

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