Knowledge Lab

The ESG Challenge

For Compliance and successful Investing

Zurich, August 11, 2022

Table of Content.

Knowledge Lab

The ESG Intro.

A brief introduction to the ESG approach: definitions and set of regulations.

Definition
Environmental, social, and corporate governance (ESG) is an approach to evaluating companies that goes beyond maximizing profits on behalf of the corporation's shareholders and socially conscious investors. A set of standards, the so-called ESG criteria, are verifiable measures and consider the following topics:

Environmental Criteria
Environmental criteria examine the presence of, for example, corporate climate policies, energy use, waste recycling, pollution (e.g., greenhouse gas emissions, management of toxic waste), natural resource conservation, and treatment of animals.

Social Criteria
Social criteria investigate, as an indication, the company's relation with stakeholders regarding human rights, labor standards in the supply chain, any exposure to illegal child labor, as well as workplace health and safety.

Corporate Governance Criteria
Corporate governance criteria analyze, for example, the use of transparent accounting standards, avoidance of conflict of interest among board members, employee/executive compensation.

Set of Regulations
In the last years, the attention to sustainability increased and led to the application of new regulations.

Different regulators, in particular from the EU and USA, are defining, implementing, and monitoring a complex set of regulations to facilitate the widespread adoption of these criteria.

European Commission provided a new regulatory framework composed of different interconnected rules with separated timelines.

ESG Regulations Overview.

Knowledge Lab

ESG main EU regulations evolution. A sustainability enhancement to MiFID II.

MiFID Delegated Regulation (EU) 2017/565
MiFID Delegated Regulation (EU) 2017/565 (ESG Preference Gathering & ESG Suitability Check) is applicable from August 2022 and aims to:

- Collect ESG preferences from clients
- Collect and compute ESG at the asset level
- Adapt suitability tests accordingly.

MiFID Delegated Directive (EU) 2017/593
MiFID Delegated Directive (EU) 2017/593 (Target Market) are enhanced product governance rules applicable from November 2022:

- Potential Target Market: type of clients, knowledge about products, experience, and risk adversity
- Distribution strategy and distribution channels.

Sustainable Finance Disclosure Regulation (SFDR)
The SFDR regulation refers to the disclosures a financial market participant (FMP) should provide when creating and distributing financial products to its customers. It contains a vast set of disclosure requirements, which will be phased in from March 2021 to the end of 2023.

EU Taxonomy (EUT)
The EUT is a classification system focusing on the "E" letter to provide companies, investors, and policymakers with definitions of environmentally sustainable activities to create security for investors, protect from greenwashing and help companies to become more climate-friendly.

The EUT has six environmental objectives; two are already defined while the other four are under definition:

- Climate change mitigation - defined
- Climate change adaptation - defined
- The sustainable use and protection of water and marine resources
- The transition to a circular economy
- Pollution prevention and control
- The protection and restoration of biodiversity and ecosystems.

EUT follows the DNSH (Do Not Significantly Harm) principle, in which an activity that harms another objective is considered as non-sustainable.

Summary of the enhancements to MiFID II framework
ESG regulation is on top of the current MiFID II framework, and it requests FMP to:

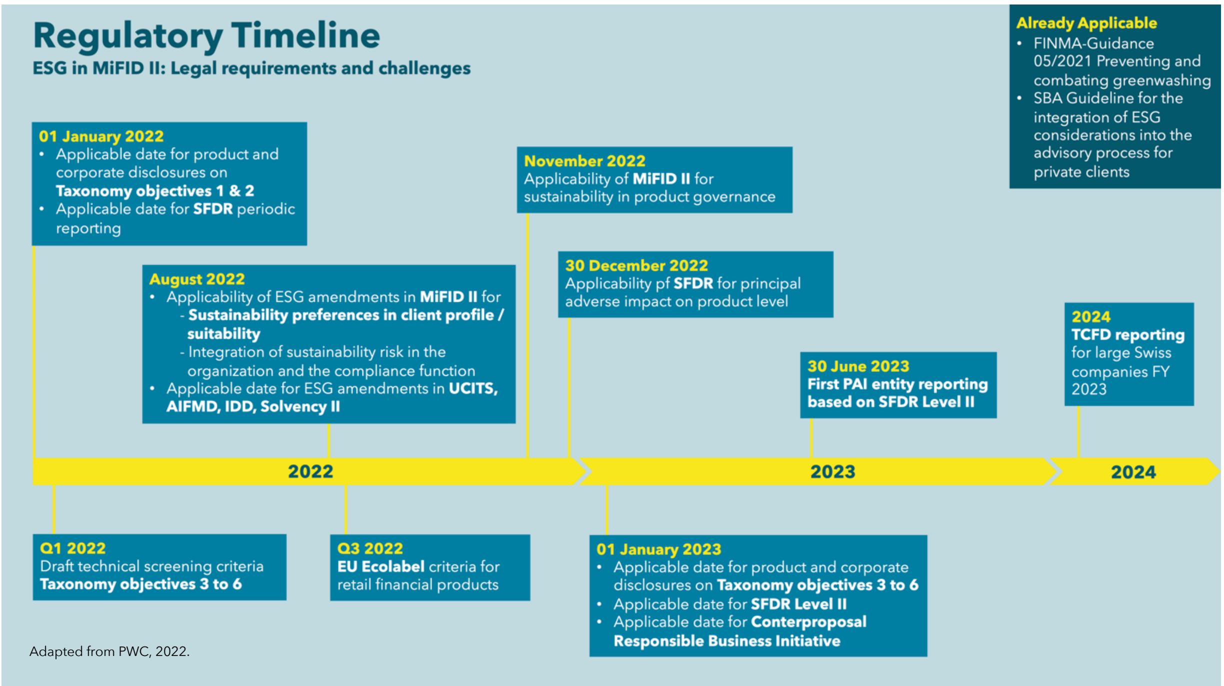
1. Collect client preferences on ESG and EUT
2. Classify assets/issuers as for ESG framework
3. Advise to the client's compatible assets, only
4. Create detailed reporting for SFDR.

The Regulatory Timeline.

Knowledge Lab

Multiple ESG interconnected regulations with a phased application of requirements bring to several deadlines in a short period.

Regulatory Timeline
As anticipated, there are several enhancements related to ESG regulation. Below you find an indicative timeline from 2022 to 2024; additional requirements, under definition, are not included.



Transition to Sustainable Finance.

Knowledge Lab

One unforeseen ESG risk event may compromise the entire amount invested in a company.

ESG Risk Events

During the last two decades, the attention to sustainable finance principles had a quantum leap. Lead asset managers and investors recognized huge risks related to low-quality companies with poor ESG monitoring. Examples of the stock price performance one year after ESG risk events are listed in the following Table (adapted from Morgan Stanley 2018 using Bloomberg data from 2016).
A single unforeseen ESG risk event can compromise the entire amount invested in a company.

ESG Risk Event	Date	1 Year %
Energy accounting scandal	8/14/01	-99.6
Telecommunications accounting scandal	3/11/02	-98.6
Upper big branch mile explosion	4/5/10	-52.7
Deepwater horizon oil spill	4/20/10	-28.2
Automobile airbag recall	1/21/14	-53.5
Pharmaceutical accounting scandal	8/5/15	-91.5
Automobile emissions scandal	9/20/15	-26.4
Average loss to shareholders after 1 year		**-64.4**

The Table above shows governance risk events, probably the least popular topic nowadays, have the hardest impacts with >90% loss, while social and environmental have approx. 50% and 25-30% loss, respectively.
The ESG is not only a matter of handling a complex regulatory compliance path with constant new requirements (e.g., every 3 to 6 months). Still, it is also essential for Asset Managers to reduce risks and increase client satisfaction.

Such as this, ESG is looked upon strategically to guarantee successful investments and an essential way of differentiation through higher performance for Banks, investment companies, and external asset managers (EAM).

Successful Investing

Avoiding low-quality companies with important ESG risk events is not enough. Long term value of most companies is strictly linked to their current and future ESG performances that are mostly connected to a brand-new set of non-financial information and new sources.

Collecting and analyzing relevant data to create valuable information will be key to anticipating the market. Trillions of investments are moving from high to low-impact assets, and their value is increasing rapidly. Adopting the mandatory ESG directive will force the end clients to make formal decisions over ESG preferences, so funds towards investments with positive ESG ratings will rise and, consequently, their price will likely increase faster.

Data Quality Hurdles.

New data, new methodologies, and time pressure bring to lack of transparency and low data correlation between providers.

Recent studies from KPMG, State Street Global Advisors, and other leading market players report data quality hurdles: ESG evaluation comes from an entirely new set of raw data that was not widely used before. While market data providers and aggregators have undisputed experience with financial data, the question is whether they have non-financial information as well. In addition, the regulators are not yet able to support mandatory and consistent reporting. So, each operator dedicates significant efforts to create a valuable data set using different methodologies and sources, but the real efficacy and applicability should be validated, still. The Table below (adapted from State Street Global Advisors) shows a cross-sectional correlation for constituents of the MSCI World Index, 12/2021 and reports low data correlation between providers.

	MSCI (%)	ISS (%)	Moody's V.E. (%)	Systainalytics (%)	R-Factor (%)
MSCI	100	46	49	23	46
ISS	-	100	66	34	72
Moody's V.E.	-	-	100	19	79
Systainalytics	-	-	-	100	22
R-Factor	-	-	-	-	100

The ESG data quality hurdles are mainly due to:

- New methodologies and sources: operators are using new approaches to collect data and are still fine-tuning it. In addition, new sources of data (e.g., satellite measurements, local media, technical publications, etc.) are under evaluation mostly to avoid greenwashing and provide effective results.
- Lack of transparency over methodologies: operators do not disclose proprietary processes, so the investors cannot fully understand how the results are reached.
- ESG data are often outdated: almost all ESG data is backward looking. Every assessment of corporates' ESG performance rates the organization on where it was at a point in time rather than where it is today.
- Time pressure: a massive set of data must be prepared in a short time to respect regulatory deadlines.
- Inconsistent data: different methods may bring inconsistent data between providers.

The new challenge for Asset Managers, External Asset Managers (EAM), and professional investors is to structure an effective solution to get relevant and timely information to decide with forward-looking awareness.

Value Proposition at a Glance.

Our core competencies are regulatory compliance, data integration, and bank strategy definition.

K-Lab's ESG value proposition
Knowledge Lab has an interdisciplinary team with extensive experience in Core Banking Systems (CBS) and Customer Application Landscape. Therefore, the Knowledge Lab team can support banks with project management, business analysis, solution design, CBS development, and 3rd party tools integration.

K-Lab's team comprises experienced solution architects, integration specialists, and software engineers capable of facing the full scope of ESG projects. Our ESG value proposition focuses on:

1. Regulatory Compliance
2. Data Integration
3. Bank Strategy Definition.

Regulatory Compliance

Description
Deliver an ESG compliant solution implementing CBS standard product and customer specific customization.

Deliverables / Tasks
- Collect clients' preferences:
  - Create new fields within CBS
  - Adapt client questionnaires
- Collect ESG market data
  - Create new fields within CBS
  - Enhance existing interface with market data provider and/or integrate ESG tool
- Adapt current MiFID II solution and workflows within CBS or external tools to enhance S-Test
- Enhance current reporting solution for ESG / SFDR
- Drive new enhancements of ESG solution surfing on the waves of new regulatory requirements

Data Integration

Description
Provide Asset Manager (AM), Relationship Manager (RM) and Compliance Officer (CO) with all needed non-financial information. Focus on tactical medium-term solution.

Deliverables / Tasks
- Analyze offering, select data package and test ESG automated solution from current market data provider
- Evaluate additional sources of information from current or new market data provider (optional)
- Analyze and select analytical tool with automated or manual solutions for AM (optional)
- Prepare ESG timely reporting for AM to support RM and CO

Bank Strategy Definition

Description
Support banks to define a holistic long-term solution and to build an IT Architecture capable to support current and future business.

Deliverables
- Support strategical review
  - Collect and analyze business requirements
  - Evaluate current IT infrastructure
  - Compare match between business and IT
- Define future-proof architecture
  - Identify priority gaps
  - Perform software selection
  - Define target architecture
- Plan and implement target architecture

K-Lab Regulatory Compliance.

Knowledge Lab

An ESG compliant solution implementing CBS standard products adapted to customer requirements.

Knowledge Lab is involved in ESG readiness projects and customizations required by private and retail banks. The following concrete examples point out how Knowledge Lab is supporting banks:

1. Collect client's preferences: Adapt client questionnaires.
2. Collect ESG data from market data providers for the asset universe in scope:
   a. Enhance existing interfaces with the current market data provider.
   b. Integrate new dedicated tools for ESG analysis.
3. Adapt objects within the Core Banking system (CBS): Modify current solutions to handle additional information at the client and asset/issuer level.
4. Adapt workflows within the Core Banking System: Enhanced suitability tests to verify ESG compatibility between assets advised and client's preferences.
5. Enhance current reporting solutions (often in charge of a dedicated 3rd party tool) to cope with the new SFDR requirements.
6. Drive the enhancement of ESG solutions by surfing on the waves of new regulatory requirements.

K-Lab Data Integration.

Knowledge Lab

Added value through timely reporting of non-financial information and integration of significant data.

Asset Managers and Investors are facing times full of challenges and opportunities. Knowledge Lab is aware of both and proposes an alternative way to collect non-financial data coping with current weaknesses. In detail, our approach foresees to separate the needs related to different bank users:

- Relationship Managers (RM) and Compliance Officers (CO) aim to maintain the advisory business with the most negligible impact. The required data set should focus on performing MiFID II Suitability Tests with new ESG enhancements. An automated solution fully integrated into the CBS is needed, and it should be in line with the current application landscape as much as possible.

  Our Business Analysts and Software Engineers are supporting banks to evaluate standard solutions from current providers (CBS and market data aggregators) and to include the most relevant customizations within the deployment.

- Asset Managers (AM): Their goal is to select the best assets to advise the clients and to support RM/CO when ESG ratings change. They need relevant information from multiple, maybe innovative, sources to make decisions. Nowadays, it's a risk to commit to a unique provider with a proprietary methodology. Furthermore, complete automation is not a priority or is not possible. The ability to compare, reference, and process data would be the key. Integrating a dedicated analytical tool could be a strategic option, but often also, a tactical solution is needed to cope with immediate needs.

Knowledge Lab has broad expertise in the following essential areas: CBS, market data providers, analytical tools, and bank operations. Our team can assist RMs, for example, on:

- RM/CO support when ESG ratings change. Our Business Analysts and Software Engineers create and implement timely reporting to monitor all the ESG-relevant changes in the advisory asset universe. AMs can verify and alert RM/COs enhancing current CRM workflows. As of today, there are several inconsistencies or unexpected results; for example, different ESG labeled funds don't obtain a sustainable classification under SFDR, and S&P Dow Jones Indices decided to remove Tesla from the S&P 500 ESG Index. In these cases, RM/COs need experienced support.
- Asset Selection. Our Solution Architects and Business Analysts can support your AMs to define a timely and effective solution. Due to data quality hurdles, it will likely be an agile process until the results are in line with the bank's expectations. In parallel, our Software Developers are ready to implement the pieces defined with an agile approach.

K-Lab Holistic Approach.

Knowledge Lab

We perform strategical review with a holistic approach and build long-term IT-solutions.

Bank Strategy Definition
ESG theme and the related rules/impacts are a challenge for all the banks involved in the advisory business. A future-proof bank cannot afford to lag behind new requirements (every 3 to 6 months as for ESG) by not adapting existing solutions and user workflows as quickly as possible. Knowledge Lab strongly suggests performing a strategical review to verify the matching between business needs and the overall IT architecture and to evaluate, with a holistic approach, status, risks, and opportunities every 3 to 5 years. ESG is just one of the main challenges banks are facing nowadays.

Other challenges, depending on the bank, could be digitalization, payment migrations, cryptocurrencies, or decentralized finance that, in general, are not compatible with rigid or outdated applications. The overall IT Architecture should support business opportunities instead of limiting them so banks can focus on their core activities and the most profitable businesses.

Knowledge Lab has a team of Solution Architects and Business Experts capable of supporting you in the strategic review and defining a robust and flexible future-proof solution for expected or unexpected changes. The team of Software Developers is then ready to deliver the solution smoothly.

Contacts.

Knowledge Lab

For more information, please contact:

Fabio Perletti
MSc Business Administration
Solution Architect
fabio.perletti@k-lab.ch

Michael Steiner
lic. rer. pol., MAS Bank Management
Senior Manager
michael.steiner@k-lab.ch