GLOBAL FINTECH HACKCELERATOR 2020

Industry Problem Statements

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SingEx

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107 Problem Statements were submitted by the global financial industry.

This year's Global FinTech Hackcelerator seeks to recognise ground-breaking solutions that enable the financial sector to respond better to two key global challenges – the COVID-19 pandemic and climate change – in order to enhance the sustainability of the finance industry in this unprecedented time of change.

This year's theme focuses on **Building Resilience, Seizing Opportunities and Emerging Stronger.**

The Global FinTech Hackcelerator will be hosted on APIX, a cloud-based prototyping platform.

The problem statements may have been edited for consistent reading. The edits do not substantially alter the intent of the original statements submitted.

CATEGORIES

107 Problem Statements

Responding to a Global Pandemic

Green Finance Solutions

Green Finance Enablers

Sustainability

RESPONDING TO A GLOBAL PANDEMIC

Solutions that drive social impact with the aim of tackling the challenges relating to a global pandemic.

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RESPONDING TO A GLOBAL PANDEMIC

Subcategory: Building Resilience

01

How might we help SMEs survive global pandemics through platforms that enable affordable loans, forward purchasing, market localisation, and possibly soften the negative impacts such as unemployment, supply shortages, bankruptcies and damage to economies?

* Background information can be found in Annex

02

How might we develop a financial wellbeing solution to help vulnerable persons (e.g., individuals suffering from mental health conditions and individuals who come from low-income families) to manage their money better during a pandemic or global crisis?

03

How might we improve global supply chains to respond better to systemic shocks and crises?

RESPONDING TO A GLOBAL PANDEMIC

Subcategory: Data Transparency

04 How might we monitor transparency and speed of disbursement of funds to the right cause, individual or entity to support and relief the strains on supply chains and micro-businesses brought on by a global pandemic?

05 As more large teams work remotely, managers would like to find out how engaged their staff are and check on their physical and emotional welfare. Other than the traditional method of a video conference, how might we utilise data to enable remote tracking of employee engagement and mental well-being on a real-time basis for employees in the financial sector? This solution should also have the ability to be implemented in an office environment seamlessly.

06 The COVID-19 pandemic has introduced many online and digital medical advisory and health applications over mobile. How might insurers and medical advisory partners share data and analytics models in a secure manner, while adhering to legal and compliance requirements, e.g., PDPA or MAS regulations?

* Background information can be found in Annex

RESPONDING TO A GLOBAL PANDEMIC

Subcategory: Financial Services

07

Reduced credit quality and increased government funding puts the global economy under stress. How might we promote the efficient use of credit according to new parameters and help banks or governments make timely decisions in areas such as relief, forbearance and liquidation?

GREEN FINANCE SOLUTIONS

Financial solutions that support the transition to low-carbon economic activities, and provide coverage for climate and disaster risk.

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GREEN FINANCE SOLUTIONS

Subcategory: Benchmarking

08

How might we use an AI engine to summarise research reports from various sources, on either companies or themes like green or transitional efforts against a given set of accessibility and quantifiable criteria, to overcome manual and tedious consolidation of research reports for assessment purposes?

* Background information can be found in Annex

09

How might we extend ESG and green signals coverage in small cap companies through the volunteering and gathering of information on businesses or products and structuring data inputs while still including information that proves transparency and thereby allowing deeper analysis by investors?

* Background information can be found in Annex

10

How might we aggregate ESG data from public and private data sources, develop scoring systems under various performance criteria and share such data on a multi-user platform, so as to advance ESG practices, structure suitable ESG-driven Trade and Supply Chain Finance programmes and boost economic growth?

* Background information can be found in Annex

GREEN FINANCE SOLUTIONS

11

How might we improve the benchmark for "mainstream" green solutions to enhance comparability?

* Background information can be found in Annex

Subcategory: Disaster and Climate Risk Management

12

Green finance is most often understood to be about climate challenges (e.g., reduced carbon emissions), but biodiversity challenges that impact climate change should also be considered. How might we help to quantify and embed biodiversity risks, opportunities and impacts (e.g., challenges to society like food security, risk of disease or pandemic) into financial decisions? The solution should improve measurement, financial innovations that deliver at the nexus of conservation and economic opportunity.

* Background information can be found in Annex

13

Physical damage to property assets caused by natural disasters can result in substantial insurance claims and lower the collateral value of bank loans. How might we develop green finance solutions that leverage innovation and technology to transfer or absorb increasing risks related to climate change?

GREEN FINANCE SOLUTIONS

Subcategory: Financial Services

14 How might we incentivise financing and mitigate security and capital requirement factors in agricultural farming?

* Background information can be found in Annex

Subcategory: Green and Sustainable Financing

15 Green finance companies typically struggle to get funding although they generate positive impact on society and the environment. How might we utilise technology to create a rating system that takes net positive impact into account and integrate this rating system with current credit rating practices?

16 Although green financing is a relatively new area of financing in Singapore, financial institutions have to assume similar levels of risk as those of conventional financing. How might we enable the spreading of loan default risks to borrowers to encourage active participation from lenders in the green financing space?

GREEN FINANCE SOLUTIONS

17

How might we automate the due diligence and financing process for smaller scale renewable projects to optimise time and cost-effectiveness?

* Background information can be found in Annex

18

A distributed generation business model involves portfolios of small projects which might be too small in size to secure standalone structured financing. How might we develop a securitisation market that allows banks or investors to take on risk of a portfolio of off-takers?

19

How might we create a funding platform that focuses on green finance companies to increase visibility and alleviate funding struggles (e.g., not having direct connections to institutions or individuals keen to finance green finance companies)?

GREEN FINANCE SOLUTIONS

20 How might we incentivise small-holder farmers to transition to more sustainable farming practices in combination with financial instruments, such as crop insurance and bank loans?

21 How might we utilise technology to help funds manage their exposure to risks from unsustainable investments?

Subcategory: Green Investments

22 How might we effectively attribute and analyse returns and volatility of investments driven by ESG or climate/environmental decisions that are integrated into traditional investment processes? This solution should allow comparison of specific dimensions between ESG/SDG and traditional investment factors across funds when ESG/SDG inputs are not standardised across providers.

GREEN FINANCE SOLUTIONS

23

How might we incentivise the acceleration of mainstreaming and adoption of sustainable bonds for central banks and larger institutional investors?

* Background information can be found in Annex

24

Buyback timings and execution are not transparent. However, they are important and can be forensically derived. How might we build a solution that can forensically derive a new metric, Cash to shareholders, which is a long-term capital allocation measure that would add to global engagement efforts on ESG, long-term strategy and long-term capital allocation?

25

How might we utilise a platform that enables investors and retail consumers to make sustainability considerations either in their respective (i) investment decision-making/SDG investment portfolio or in their (ii) sustainability consumption?

GREEN FINANCE SOLUTIONS

26

How might we develop a true SDG measurement utility or measurement platform that banks can utilise to enable and promote SDG conscious investment and banking products?

27

The proxy voting chain is a very important tool for the active ownership of assets and is a requirement of many stewardship codes globally. However, it is complicated and involves many actors and processes thereby exposing the chain to potential points of weaknesses. How might we create a solution that facilitates a voting system that is prompt and effective for global investors?

28

How might we enable better understanding of the value and impact of green investments to private wealth clients by utilising new technology (e.g., AR and VR) in an intuitive manner?

GREEN FINANCE SOLUTIONS

29

The general unfamiliarity to green bonds and other investment instruments contribute to its unpopularity amongst investors. How might we enable financial institutions to offer these products in a way that investors are already familiar and comfortable with, i.e., in a user-friendly, transparent and easy to understand method?

30

Due to their smaller ticket size, shallow market and the buy and hold mentality of some investors, green bonds are perceived to be more illiquid compared to plain vanilla bonds. How might we create a solution that will support the deepening of the liquidity pool, and ultimately increase asset turnover amongst investors?

* Background information can be found in Annex

31

Although there is a growing appetite for green investments, the goals of such investors are diverse and green financing projects may be structured to meet specific capital needs. How might we use technology to efficiently match the needs of green financing projects with the preferences of new investors?

GREEN FINANCE SOLUTIONS

32 Given the explosion in interest in passive investments, how might we build a robo-advisor that focuses on optimising a portfolio for both low-risk high-return profits from ESG-conscious equities, bonds, and indices?

Subcategory: Green Transition

33 How might we enhance transparency around green finance related transactions (e.g., lending, insurance and capital markets)? How might we then use that to create more solutions and develop the green finance industry?

* Background information can be found in Annex

34 Historically, climate change transition is considered high-risk. Unless engagement is enforced by regulators, banks often transfer these risks off their balance sheet. How might we build a platform to aggregate parties, i.e., individuals and businesses, who are interested in building renewables to an effective scale?

GREEN FINANCE SOLUTIONS

35

How might we streamline the process for corporations across jurisdictions without leveraging on IaaS capabilities and reduce the complexity created in our environment by the implementation of varying regulatory data localisation demands?

* Background information can be found in Annex

36

How might we utilise technology to leverage on the strengths of global market players to bridge some of the fragmentation and create a cohesive global marketplace for sustainable finance?

* Background information can be found in Annex

37

Starting the journey towards sustainable insurance for organisations can be a challenging decision to make due to the steep learning curve from drawing up a good view of the current situation to the various challenges and opportunities it can bring. How might we draw a quick, transparent and comprehensive picture of both financial and insurance risks associated with climate change based on the company's investment or insurance portfolio to help the organisation better understand where it currently stands, what the opportunities are and set, track and report objectives?

GREEN FINANCE SOLUTIONS

Subcategory: Impact Traceability

38 How might we utilise blockchain technology to track business activities that are qualified as green as defined by regulators to increase the authenticity, timeliness and efficiency of green certification at both company and fund levels?

39 How might we utilise technology to disaggregate a company's revenue into granular details to track penetration of green or impactful products or services and authenticate that the product sale was truly to an in-need beneficiary?

40 How might we utilise technology to identify any causal links between investor action, corporate action and environmental and social outcome?

GREEN FINANCE SOLUTIONS

41 A corporation's ability to generate positive impact is through their supply chain leverage and direct operations. Considering that most supplier relationships are opaque and direct operations are not easily identifiable, how might we better gain visibility of a corporate's network of influence and impact?

42 How might we perform traceability sourcing of raw material production against best practice production guidelines to quantify environmental and social impact of global supply chains?

43 How might we allow hyper personal feedback and insights for donors by enabling dollar-level tracking of philanthropic donations from initial receipt down to the individual recipient?

GREEN FINANCE SOLUTIONS

44 How might we de-couple the efforts of green, transition and climate finance by financial institutions and the markets from political changes and agendas across countries?

45 How might we incorporate the use of certifications, verifications or assurances to ensure that proceeds from green products (e.g., green bonds and loans) are used in accordance with its principles and standards?

GREEN FINANCE ENABLERS

Solutions relating to the information, processes and mechanisms that support transparency, integrity and decision making for green transition and climate finance flows.

GREEN FINANCE ENABLERS

Subcategory: Benchmarking

46 How might investors analyse and track ESG performance of small to medium-sized companies in their portfolios in a less costly and time-consuming way?

47 How might we compare country-specific and regional benchmarks across Asia Pacific for various local and international green building rating systems to ensure consistency?

* Background information can be found in Annex

48 How might we create a new measure of Total Stakeholder Return (TSR+) by taking into account the value it generates for stakeholders (i.e., employees, government, community and shareholders) minus the dollar value of negative green efforts (i.e., emissions and pollutions) to objectively quantify a company's total positive impact? How might we then build a technology that can analyse a company's financial statement and instantly calculate this new metric?

GREEN FINANCE ENABLERS

49

KPIs for Sustainability Linked Loans are not made public and are broad in nature. This makes it challenging for borrowers to test the level of sustainability of their loan. How might we develop a dashboard to input key KPIs for Sustainability Linked Loans, track the achievement of KPIs and benchmark the levels of sustainability and social and non-social impacts of the loans?

50

How might we measure or quantify the Net Positive Impact across a Financial Institution's entire investment universe?

51

By identifying the level of "stranded" and the time horizon involved, banks, asset owners and managers will be able to direct capital away from these assets and towards green assets. How might we categorise different levels of stranded assets in a pragmatic way that will serve to be useful and informative for lending and investments?

* Background information can be found in Annex

GREEN FINANCE ENABLERS

52

How might we build a solution, with social media features, to allow the public to assess and compare the carbon footprint of products and companies to help them with their purchase decisions?

* Background information can be found in Annex

53

How might we bridge the gap and enable decision makers to access real-time environmental data from asset owners to enable effective tracking of environmental impact, progress towards achieving ESG targets and advance policy development areas such as green financing?

* Background information can be found in Annex

54

How might we collect and process data from different data sources so that a more complete set of information can be provided on green financing and assist in the setting of standards in this regard?

* Background information can be found in Annex

GREEN FINANCE ENABLERS

Subcategory: Data

55 How might we integrate digital assets (e.g., carbon credits and green bonds), smart contracts and distributed ledgers to facilitate the sharing of data and information across borders with regards to smart contracts and the digital transfer of values?

56 How might we utilise IoT and Big Data to build smart recommendations for clients, based on their economic transactions, which can translate into immediate actions to help them optimise cost and lower environmental impact while creating economic value?

57 Physical and transition risks are a challenge for investors to track. This is especially so in emerging markets. Traditional approaches based on European standards place issuers at high risk levels, creating a hurdle for international investors to build a diversified portfolio of issuers aligned with climate change risks. How might we create and track risk data relating to bottom-up country contexts which covers a sufficient number of issuers?

* Background information can be found in Annex

GREEN FINANCE ENABLERS

58

How might we develop an algorithm with the capability to analyse and record data on sustainable finance instruments in the following aspects?

* Background information can be found in Annex

59

How might we create a data platform that compiles and estimates exposure to key climate risks (e.g., rising sea levels and higher temperatures) and effectively utilise these data assets?

60

One of the bottlenecks to accelerate finance for renewables is reliable data on the probability of solar and wind energy. How might we easily and reliably access available information in existing renewables (e.g., past analysis and performance), to utilise it for probability analysis in new credit and monitoring?

GREEN FINANCE ENABLERS

61 How might we close the gap between required and available data for building risk transfer mechanisms for farmers?

62 How might investors efficiently search, compare and track listed issuers' annual emissions data and emissions-related targets (historical and current) as publicly disclosed in their annual sustainability reports?

* Background information can be found in Annex

63 How might we design an open-source data platform that allows investors and lenders to gain access to relevant social and environmental information from corporate reporters (listed and unlisted) and other data sources (e.g., Euromonitor and Bloomberg)?

GREEN FINANCE ENABLERS

64 How might we utilise geospatial tools to gather asset-level data in order to better understand physical and transition risks associated with climate change, particularly in the Asia region?

65 How might we quantify and streamline the information collection process on physical climate change risks, not only to help identify the likelihood of occurrence and the severity of the impact it can cause within an investment portfolio, but also to allow the investment management community to widen the integration of climate risk consideration into investment decisions?

66 How might we integrate a company's supply chain and consumer demand data with climate and environmental science to assess both sector and business-wide transition to green and low carbon economy in order to systematically compare and engage with issuers?

GREEN FINANCE ENABLERS

67 It is tremendously difficult to track financial commitments on climate action in a public and transparent way. How might we use smart contracts to publicise and decentralise the recording of commitments to the climate?

68 Given the deluge of information everywhere, how might we build a system that sends automated alerts of investments that violate the SDGs?

Subcategory: Disclosure Mechanisms

69 There are fragmentations in the reporting of group level sustainability which are reported at a corporate level while social 'needs' are reported at a local level. This causes current 'mapping' to SDGs to fail in capturing important regional dimensions. How might we utilise technology to solve this mismatch?

GREEN FINANCE ENABLERS

70

How might we create a database on sustainable products that will provide transparency and is trusted by investors as they make educated investment decisions?

* Background information can be found in Annex

71

Small to medium sized companies tend to have limited resources and capacities to report their ESG performance. How might we utilise technology to bridge this gap in the SME space? The solution can publish standardised impact reports for companies who lack the capacity to do so or for new financial instruments such as social bonds.

72

How might we help companies that provide green solutions learn how to obtain, measure and publish data in relation to climate-related risks and opportunities? This solution should also guide companies in assessing, quantifying and disclosing the relevant data based on its geographical location, relevant frameworks and other company characteristics such as size, sector etc.

GREEN FINANCE ENABLERS

Subcategory: Impact Traceability

73 How might we identify, measure and track the tangible benefits (e.g., better engagement with stakeholders) that sustainable financing brings to companies?

Subcategory: Regulatory and Governance

74 How might we provide an end-to-end certified process to ensure impact / sustainable investing is transparent and above reproach?

75 How might we utilise technology to effectively implement AML and counter the financing of terrorism checks and KYC processes on funds that are channeled from different parts of the world (including individual donations) to facilitate green, transition and climate financing?

* Background information can be found in Annex

GREEN FINANCE ENABLERS

76 How might we track and comply with policy changes, technological advances and exchange knowledge with other jurisdictions?

* Background information can be found in Annex

Subcategory: Scenario Analysis

77 How might we assess or identify carbon offsetting through the use of land or land reclamation and use that information as a factor into investment decisions?

78 How might we utilise existing climate-related data (e.g., sea level, weather pattern predictions) in Asia to streamline investment decisions?

GREEN FINANCE ENABLERS

79

How might we source and streamline upstream carbon footprint data points, in order to increase the transparency of carbon footprint data and allow investors to better compare relevant carbon activity across companies, supply chain or products?

* Background information can be found in Annex

80

How might we develop a tool that provides accurate and efficient insights of global deforestation at low costs and enables pairing to land ownership and/or customer data to allow investors to have focused engagement with owners and/or clients of that land?

81

How might we gather and organise relevant, real-time carbon emission data at scale and market it as the industry standard in order for it to be readily applied for investment and risk management decisions? The data can be collected through IoT devices and satellites while blockchain can be applied to store unaltered and decentralised datasets to increase credibility.

* Background information can be found in Annex

GREEN FINANCE ENABLERS

82 How might we best design climate change scenarios in order to assess the environmental risk and stress test chosen parameters?

Subcategory: Taxonomy

83 How might we develop an algorithm to analyse a company's sustainable initiatives and activities (i.e., services, production processes and certified products across sectors) in order to apply an international and/or national standard to them?

84 In the absence of a worldwide standard, many investors are now coming up with their own criteria and taxonomy of choice to make their investment decisions. How might we streamline and match investors' criteria with globally available sustainable finance products in the market?

* Background information can be found in Annex

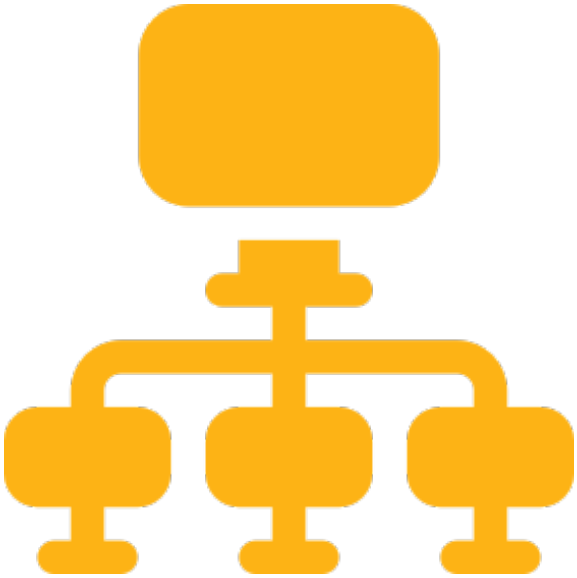
GREEN FINANCE ENABLERS

85 Despite having frameworks, principles and commitments to follow, climate change risk data remains scattered and voluntary. How might we measure, mitigate and disclose such risks in a standardised, consistent and objective way?

86 How might we create a standardised tool for companies to set their own SDG-related or other ESG impact targets and follow-up on their progress, where those targets and progress measures may also be accessed by Asset Managers or Private Equity Funds interested in investing in those companies?

87 How might we develop a standardised ranking that corrects for the structural differences in carbon dioxide emissions by company or sector?

* Background information can be found in Annex



SUSTAINABILITY

Any other solutions which enable financial institutions to build resilience to crises (both man-made and natural) and promote sustainable development outcomes.

SUSTAINABILITY

Subcategory: Customer Engagement

88 The collection and sharing of quality data from customers is vital to enhance touchpoints with them and provide them with more personalised value-added services. How might we collect customers' data through transparent, safe and ethical ways to improve our understanding of them and their assets?

89 How might we promote technology inclusion by providing an intuitive and secure communication channel between a bank and its clients, in which multimedia content can be seamlessly shared and accessed?

Subcategory: Financial Inclusion

90 How might we enable gender equality and identify gender smart companies, open source data for gender smart procurement companies, gender bonds and platforms to matchmake gender smart companies to businesses and investment opportunities?

SUSTAINABILITY

91

How might we develop a tool that will locate water scarce regions and map that against nearby corporate presence in order to indicate water risks for corporations and local communities?

92

How might we help small business owners better understand their risks and the ways to mitigate or minimise their exposure to these risks (e.g., cyber-attacks and climate change)?

93

How might we increase accessibility of basic mobile banking services such as payments and loans to vulnerable parties such as migrant workers or individuals from low-income families who may not otherwise qualify for these services due to their inability to provide adequate identification or proof of credit worthiness?

SUSTAINABILITY

94 How might we boost financial inclusion for migrant workers through comprehensive solutions (e.g., micro-finance, micro-payments, micro-pension, micro-insurance, micro-savings and micro-investments) that enable them to have better access to financial services?

95 How might we boost financial inclusion for low to medium income families through comprehensive solutions (e.g., micro-finance, micro-payments, micro-pension, micro-insurance, micro-savings and micro-investment) that enable them to be have better access to financial services?

Subcategory: Financial Services

96 How might we utilise technology to help the financial services industry build resilience after a global pandemic, especially in the area of systems, processes, communication strategies?

SUSTAINABILITY

Subcategory: Financial Services

97 How might we develop a solution that would allow for tracking and rebalancing of CAPEX/OPEX in an agile manner during times of crisis?

98 How might we expedite client feedback on Research Analyst reports to not only determine its value-add to investment decisions but also to streamline the process of addressing client queries?

99 How might we utilise sensors to enhance the understanding of risks (e.g., diagnostics in medical applications, improved environmental monitoring and intelligent systems that are self-monitoring, self-correcting and repairing) and create new financial solutions?

SUSTAINABILITY

100 How might we facilitate the exchange of real-time pricing information between financial institutions and liquidity providers, particularly for OTC products and structured notes?

Subcategory: Regulatory and Governance

101 How might we monitor customer behaviour patterns during onboarding and servicing to gain broader transparency of a customer to enable more effective transaction monitoring, KYC reviews and early fraud detection?

102 How might we develop a comprehensive regulatory compliance solution that provides a bank end-to-end access to all applicable laws, rules, regulations (LRRs) across many different jurisdictions and banking functions (e.g., asset management, securities and banking), to automate the process of researching regulations and reviewing the status of compliance?

SUSTAINABILITY

103 How might we automate the process for DPM Managers to ensure that they are consistently adhering to the mandate's portfolio definitions and constraints?

Subcategory: Remote Workplace

104 The financial services industry in Singapore has greatly transformed thanks to technology. Most services can be carried out online, and this has proven to be crucial during times of crisis or a global pandemic. How might we use technology to enhance the mobility of business operations for financial institutions and fully digitise the provision of financial services while still taking regulatory requirements and cybersecurity concerns into account?

105 How might we enable remote advisory for our insurance agents to telecommute securely and seamlessly with their clients while adhering to regulatory standards and compliance policies?

* Background information can be found in Annex

SUSTAINABILITY

Subcategory: Risk Management

106 How might banks and financial institutions quantitatively and qualitatively evaluate associated risks in a simple, clear and objective manner, while remaining cost-effective to enable the right risk-mitigation decisions?

* Background information can be found in Annex

107 How might we continue to cover customers' risks in a world where adoption of disruptive technologies creates uncertainty compared to traditional business practices (e.g., unclear ownership of liability)?

ANNEX

ADDITIONAL INFORMATION

Additional background information for the relevant problem statements are detailed in this section. Problem statement numbers omitted in this section indicate that no further background information is provided.

Problem Statement	Background
1	The COVID-19 pandemic has precipitated an unprecedented economic crisis that will negatively impact tens of millions of small and medium sized business (SMEs). Government bail outs will help where they exist, but will be inadequate in preventing short term unemployment, supply shortages, wide spread bankruptcies and damage to short and longer term damage to local and national economies.
6	The solution should have the following features: i. Enable data sharing with legal binding data agreements facilitated via a trusted secure platform to solve the complexity of multi-party data analysis, transforming manual governance procedures and patched-together analytics solutions into simple, online workflows. ii. Securely manage data sharing projects online with comprehensive governance, workflows, user access roles and audit dashboards. iii. All interactions with datasets are tracked and audited, reducing the risk of data misuse iv. De-identify and match datasets without customer personally identifiable information (PII).
8	Banks and other financial institutions use a multitude of research reports from various sources. The task of consolidating research reports for consensus is very manual as there is no standardised format.
9	The solution should offer a complement to both traditional analysis that lacks coverage, and machine-learning signals often based on news which lack transparency and are reliable only for the short term.

ADDITIONAL INFORMATION

Problem Statement	Background
10	Sustainable Trade & Supply Chain Finance can play a material role in improving global supply chains, boosting economic growth and supporting poverty reduction. Trade and Supply Chain Finance can simultaneously be used to advance ESG practices and contribute towards the achievement of the UN's Sustainable Development Goals (SDGs). Banks and corporations have had limited traction in implementing ESG practices across South East Asia, for example by setting targets for Trade and Supply Chain Finance programmes, and monitoring performance. Material challenges include the lack of widely accepted standardisation in ESG metrics and difficulties in aggregating relevant data from various sources to drive effective performance measurement. The data can be used by banks and corporations to structure suitable ESG driven Trade and Supply Chain Finance programmes.
11	The benchmark for "mainstream" green solutions are ESG ratings and scoring provided by for example external vendors like S&P, Moody's and Refinitiv. To a large extent In terms of disclosures, companies will be measured and scored on how accurately and timely information are provided to relevant stakeholders (e.g., banks, investors and regulators).
12	Biodiversity challenges directly impacts climate change (e.g., forests and oceans as carbon sinks), and directly threatens societies by undermining food security and the risks of disease and pandemics. Biodiversity risks/opportunities/impacts are hard to measure and are often considered immaterial to financial decisions.
14	The global COVID-19 pandemic highlights the importance of producing domestic food supply. However, financing of agricultural land and farming are relatively uncommon due to the security risks with no additional incentives such as decreased capital requirements for financial institutions.

ADDITIONAL INFORMATION

Problem Statement	Background
17	Renewable projects are typically smaller in scale compared to conventional power projects, which causes the financing process to be more time consuming and less cost-effective.
23	Central banks have been slower to incorporate climate change risks in their investment frameworks. According to ECB's Chief Economist Philip Lane, it is partly due to the lack of specific policies that discourage the buying of non-eco-friendly assets. A recent survey of central banks showed that almost all of the 27 respondents said they have already adopted sustainable and responsible investment principles in their portfolio management or are planning to do so, but the pace of adoption is not enough to make the needed impact. Today, sustainable or green bonds are not yet widely accepted as collateral by central banks, and have not fully made their way into financing activities (e.g., repo, securities lending and collateral management) either.
30	The investment industry is clamouring for green securities, as pension funds, sovereign investors or family offices request for more environmentally friendly securities. During today's financial crisis, demand for top-rated sovereign issuers will likely be high and the Coronavirus stimulus programmes might help to bring more government support to the market, raising its size and deepening the pool. However, for these sustainable investments to be widely appealing to central banks and sovereign wealth funds, the size of issuance and liquidity pool of the sustainable instruments matter. Investors may not feel comfortable taking positions on smaller tickets in a shallow market for fear of illiquidity, driving them to invest in safe, easily tradable HQLA instruments rather than on sustainable ones.

ADDITIONAL INFORMATION

Problem Statement	Background
33	The ambition is to include standard and 'certified/assured/audited' ESG data to measure the performance of a loan, a policy agreement and/or a general capital markets transaction on a number of set metrics. The satisfactory fulfilment of the abovementioned will possibly result in lower interest margins, policy premium or capital requirements, thereby motivating and incentivising green transactions.
35	Regulators across jurisdictions have an increased focus on maintaining logical and physical control over network environments for corporations, introducing complexity and operational overheads to corporations covering a large number of jurisdictions. This may reduce overall data security resulting in productivity losses.
36	As support for Sustainable Finance grows, numerous standard setters are working on developing individual frameworks while some stock exchanges have their own initiatives. This brings about fragmented marketplaces, commercial and regulatory initiatives around the world.
47	There are many standards in evaluating green buildings, e.g., NABERS / LEED / BCA Green Mark / Green Building Evaluation Label. A model to compare country-specific and regional benchmarks would be incredibly useful to ensure the standards are consistent. Currently, it can be difficult to ascertain how less well-known or country-specific standards compare to the internationally-recognised schemes.

ADDITIONAL INFORMATION

Problem Statement	Background
51	Currently, the concept of stranded assets is binary in nature, depending on what research you read and who you ask. For instance, coal can be considered both stranded or not stranded; oil is considered by some to have peaked and will be stranded, while others disagree. Stranded assets are assets that have suffered from unanticipated or premature write-downs, devaluations or conversion to liabilities.
52	Carbon footprint disclosures are limited. To encourage companies to disclose carbon footprint and consumers to purchase environmental friendly products and services, it would be helpful to create an app that makes product information about carbon footprint easily accessible and comparable. With a social media functionality, users can share their eco-friendly efforts online to help stimulate demand amongst peers. The ecosystem would generate data that will be very useful for green loan approval for businesses (i.e., consumers, manufacturers, and services providers).
53	Real-time environmental data for assets is usually captured for operational and monitoring purposes by the asset owners. However, this data is not accessible to decision makers and financiers in a comparable format.
54	One of the reasons why green financing remains a niche sector is the lack of common risk measurements, data standardisation and disclosure. This stands in contrast to traditional investment products and credit ratings.
57	Physical risk metrics do not consider "issuer resilience" as a factor, leaving emerging market issuer scores based only on the level of exposure to physical risks (e.g., Energy sectors will have high levels of exposure to coal). Transition risks such as changing environmental regulations and consumer behaviours are quantitative and thus, much harder to gauge.

ADDITIONAL INFORMATION

Problem Statement	Background
58	The solution should have the following features: i. Cover relevant financial data about the transaction (e.g., ISIN, size, CCY, issue) ii. Cover relevant non-financial data about the transaction (e.g., KPIs, Trajectories) iii. Assessment of alignment with international / national standards to highlight missing information iv. Generate factsheet on the instrument summarising financial terms and non-financial terms in a user-friendly way
62	The data should provide both aggregate emissions and intensity (emission/revenue). This data should also include carbon and water usage, and other relevant metrics applicable to the issuer's industry, and ideally be comparable to the market average, peers in the region and globally to provide performance-related insight. Given most targets look at multiple years, each year's data should track and provide achievements towards stated targets.
70	When evaluating ESG products, the secondary opinion can vary based on verifier, region and the standard applied. Due to diverging ESG standards (e.g., EU Taxonomy, Chinese Green Bond Standards and Local Standards) and the lack of comparable and trustworthy data, investors often mistrust the data on sustainable finance and fear the possibility of "greenwashing" efforts by companies.
75	Current screening procedures can be based on different criteria, for example, on pre-set ESG criteria which can either be global or bespoke, or having exclusion lists for sectors.

ADDITIONAL INFORMATION

Problem Statement	Background
76	The cross-jurisdictional alignment in terms of policy making (e.g., definitions, reporting requirements and data privacy) is critical to ensure and secure a common baseline where green-pathways for different industries and geographies can be identified. For example, Singapore could take inspiration from the EU-green deal, and the newly introduced EU-taxonomy to align its definition on what 'green' means, to facilitate the transition to a greener economy.
79	Tangible business KPIs that lead to historical carbon estimates, analysis of systematic robust historical trends analysis and forward estimates of carbon performance vs. peers will be beneficial to carbon footprint comparability across the investment universe.
81	Carbon emission and other pollution data tend to be scattered, non-standardised and non-transparent. It is challenging to source for these types of datasets at scale in a timely manner. Technology solutions that accurately identify emitters and precisely measure emission amounts would be useful for developing innovative green finance products.
84	Pension funds are increasingly integrating sustainability criteria into their investment strategies and decision-making processes. However, because the EU taxonomy or other standards are not fully applicable worldwide, the criteria for when an investment is sustainable is still ambiguous. It is, therefore, often up to each pension fund or investor to choose their own criteria, and then find investments that match their sustainability and ROI requirements.
87	The most common metric for carbon footprint is carbon dioxide emissions. An oil and gas company will always have high carbon dioxide emissions because of the work involved, while a medical company can have very low carbon dioxide emissions. Based on the conventional ranking, the medical company will score well while the oil and gas company will score poorly. However, it could be that the oil and gas company is very committed to carbon reduction while the medical company has not implemented any solutions in this aspect.

ADDITIONAL INFORMATION

Problem Statement	Background
105	The solution should enable remote advisory for financial advisory agents to telecommute securely and seamlessly with their clients while still adhering to MAS regulations and regulatory compliance policies and standards. This can be in a form of a simple-to-use, real-time remote online meeting session solution for agents to remotely advise and close sales with their customers to do remote signing as well, without having to download any additional software on almost any laptop or tablet.
106	The COVID-19 pandemic has resulted in many strategic and operational shifts within banks and Financial Institutions. Many of these shifts involve re-evaluating associated risks. Especially with large organisations, intensive effort is required to rapidly assess these risks and make the right risk-mitigation decisions.

GLOSSARY OF TERMS

AI	Artificial Intelligence
AR	Augmented Reality
AML	Anti-Money Laundering
BCA	Building Code of Australia
CAPEX	Capital Expenditure
CCY	Currency
DPM	Data Protection Managers
ESG	Environmental, Social and Governance
HQLA	High-Quality Liquid Assets
IaaS	Infrastructure as a Service
IoT	Internet Of Things
ISIN	International Securities Identification Number
KPI	Key Performance Indicator
KYC	Know Your Customer
LEED	Leadership in Energy and Environmental Design
LRR	Laws, Rules, Regulations
MAS	Monetary Authority of Singapore
NABERS	National Australian Built Environment Rating System
OPEX	Operating Expense
OTC	Over-The-Counter
PDPA	Personal Data Protection Act
ROI	Return on Investment
SDG	Sustainable Development Goals
SME	Small And Medium-Sized Enterprise
TSR	Total Shareholder Return
VR	Virtual Reality

SUBMISSION

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