Euler Hermes Ré SA

Solvency and Financial Condition Report (SFCR)

Based on 31/12/2018 figures

Contents

Executive Summary

The Solvency and Financial Condition Report (SFCR) is a reporting requirement implemented as part of Solvency II (SII).

The scope of this report covers the following topics in relation to EH Ré SA's business: business and performance, system of governance, risk profile, valuation for solvency purposes and capital management.

Business and performance (A)

EH Ré SA is a reinsurance company based in Luxembourg that is 100% owned by Euler Hermes Reinsurance AG (EH Re AG). The business is focused on a single SII Line of Business (LoB): "9. Credit and Suretyship and guarantee insurance".

EH Ré SA operates in several material geographical regions: France (Run Off only), Northern Europe, Mediterranean countries, Middle East and Africa (MMEA) and Asia and Pacific (APAC). From underwriting year 2018 onwards, Acredia & Cosec stopped ceding to EH Ré SA and now cede directly to EH Re AG. From the MMEA region, only EH Greece still ceded to EH Ré Lux in 2018.

In 2018, EH Ré SA's Gross Earned Premiums were at 453M€, decreasing by 4.1% compared to 2017, mainly due to Acredia & Cosec no longer ceding to EH Ré SA. This also impacted the gross claims level, down by 9.7% in 2018 compared to 2017. Moreover, in context with the large loss "Steinhoff" of 14M€, IBNR was fully released during 2018.

The investment income stood at 1.5M€, significantly down compared to 2017 (-50%), driven by lower income from bonds (0.98M€ in 2018 versus 2.3M€ in 2017).

System of governance (B)

EH Ré SA management is organized around two management bodies, the Board of Directors (BoD) and the Board of Management (BoM). To assist those management bodies in their tasks, both of them have established various committees.

EH Ré SA has also implemented four independent Key Functions (Internal Audit, Compliance, Risk Management and Actuarial), constituting the second and third level of its "three lines of defense" organization.

To ensure the well-functioning of these functions, EH Ré SA has set up the Risk Policy Framework (RPF) which is a set of policies, standards and guidelines overarching the risk management system of EH Ré SA. It includes but is not limited to high Fit and Proper standard for its BoD, BoM and Key Function holders, as well as a set of other policies that oversee principles and governance of Key Functions.

The Risk Management Function measures and assesses EH Ré SA's risks through processes among which the Own Risk and Solvency Assessment (ORSA) and the Top Risk Assessment (TRA). The latter covers strategic risks which cannot be modelled and Board members are defined as owners, responsible for the assessment as well as the definition and set up of appropriate risk mitigation plans.

Risk profile (C)

EH Ré SA risk profile is made of the following main risks: Underwriting, Market, Credit, Operational and Liquidity.

EH Ré SA quantifies the Underwriting, Market, Credit and Operational risks as well as the required regulatory Risk Capital (RC) by using a Full Internal Model (IM). No material data quality deficiencies were identified in the data used for the IM. Since October 2018, and with the approval of its lead regulator, EH Ré SA has replaced its Full IM with the Standard Model (SM) for the calculation of regulatory capital requirements. Nevertheless, EH Ré SA continues to steer its risk profile using the results of its IM.

EH Ré SA has implemented a comprehensive and top-down Risk Appetite framework made of various limits in order to steer its major risks such as Underwriting, Market and Credit.

EH Ré SA Risk Appetite framework is reviewed and challenged against various adverse events. Specifically, stress test scenarios are executed on an annual basis and cover both market-wide scenario (e.g. financial crisis scenario), underwriting risk (e.g. US-China Trade War and Dieselgate), liquidity risk (e.g. a combination of a market stress scenario and a recession scenario).

Finally, EH Ré SA also monitors its concentration risk and diversification across investment risk and underwriting risk to mitigate any negative impact on its Risk Appetite indicators.

Valuation for solvency purposes (D)

EH Ré SA's assets and liabilities are presented and reconciled in Market Value Balance Sheet (MVBS) and local Luxembourg GAAP (LuxGAAP).

There have not been any significant changes to the recognition and valuation of material classes of assets and liabilities during the reporting period.

Excess of Assets over Liabilities (EoAL) of 2018 is valuated at 97M€ on an MVBS basis. The total value of assets and liabilities stood at 671M€ and 573M€, of which 417M€ of Technical Provisions (TP). Assets have been invested in alignment with the Prudent Person Principle.

Capital management (E)

EH Ré SA own funds are exclusively composed of basic own funds.

EH Ré SA complies with CAA regulatory requirements and is in line with its Capital Management strategy in terms of solvency.

The SII ratio of EH Ré SA is at 179% and the MCR amounts to 18.2M€.

A. Business and performance

A.1. Business

A.1.1. Legal entity, auditor and supervisor

A.1.1.1. Name and legal form

Name and legal form	Euler Hermes Ré SA
Address	534, rue de Neudorf, L-2220 Luxembourg
Website	www.eulerhermes.com

Euler Hermes Ré SA is referred to as EH Ré SA throughout this document. EH Ré SA's legal company form is a limited company ("société anonyme (SA)") with the registration number B 36134.

A.1.1.2. Supervisor

Name	Commissariat aux assurances (CAA)
Address	7, boulevard Joseph II, L-1840 Luxembourg

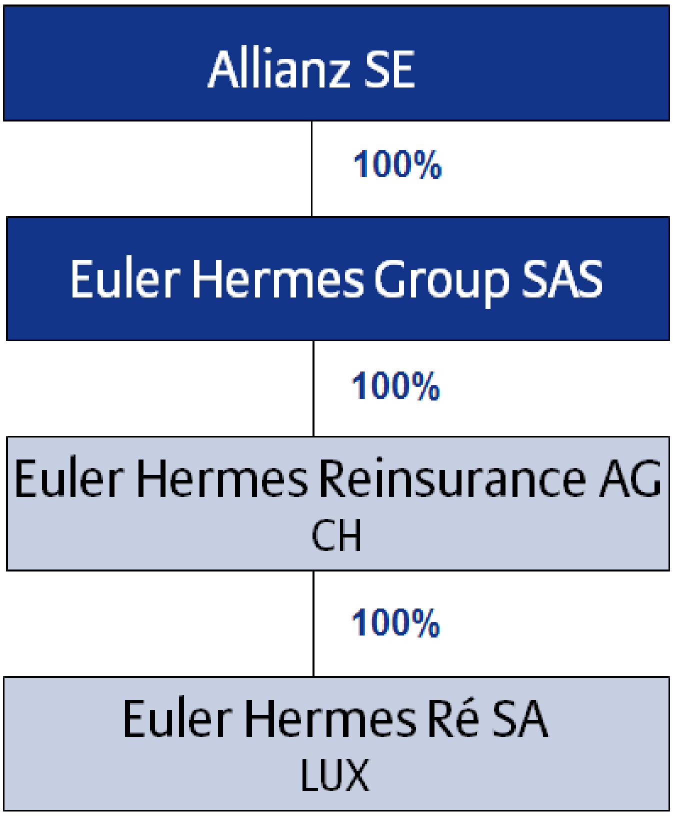
A.1.1.3. Auditor

Name	PwC
Address	2. rue Gerhard Mercator B.P. 1443, L-1014 Luxembourg

A.1.2. Group structure and qualified holdings

EH Ré SA is a fully owned subsidiary of EH Re AG, Switzerland, which is a 100% subsidiary of Euler Hermes Group SAS (EH Group), the French holding company of the EH Group. Below is a simplified group structure chart which also details the percent ownership and legal links to its parent entities and its material related undertakings.

Figure 1: **EH Ré SA simplified Group structure**



EH Group SAS has a 100% ownership interest in EH Re AG which has a 100% ownership interest in EH Ré SA divided in 50,000 shares.

A.1.3. Material lines of business and geographical areas

EH Re AG and EH Ré SA are the EH Group reinsurance companies providing reinsurance solutions and capacity to all EH Group companies. In addition, it covers the related non-consolidated companies in Austria, Portugal, Israel and Solunion, the Euler Hermes' Joint Venture with Mapfre for the Spanish and Latin American countries.

Since the beginning of 2012, EH Ré SA has started to assume not only trade credit insurance from EH Group companies, but also surety & guarantee and fidelity business from EH Group although most of this business is now directly ceded to EH Re AG

Mainly the business from the EH business units located in the European Union (EU) are ceded to EH Ré SA with the exception of the German, French and Italian branches of Euler Hermes SA (EH SA) whereas the Asian Pacific branches of EH SA started to cede directly to EH Ré SA from underwriting year 2017. From underwriting year 2018 onwards, Acredia & Cosec stopped ceding to EH Ré SA and now cede directly to EH Re AG.

EH Ré SA has two main LoBs: credit insurance, surety and guarantee although these last one is now marginal for EH Ré SA as ceded directly to EH Re AG.

For the purposes of SII reporting, these LoBs fit into the SII LoB: “9. credit and suretyship insurance”.

A.1.4. Significant events

No significant event affected EH Ré SA during the year 2018.

A.2. Underwriting Performance

As part of EH Group, EH Ré SA performs analyses and discloses its reports and publications on an IFRS basis.

A.2.1. Aggregated underwriting performance

The following table summarizes the IFRS EH Ré SA’s underwriting performance at an aggregated level:

Figure 2: **EH Ré SA aggregated Underwriting Performance**

In K€	2018	2017	Δ	%
Gross earned premiums	452,952	472,156	-19,204	-4.07%
Claims costs	-171,775	-190,290	18,515	-9.73%
Gross operating expenses	-154,106	-161,103	6,997	-4.34%
Gross technical result	127,071	120,764	6,307	5.22%
Outward result	-122,818	-125,791	2,973	-2.36%
Technical result	4,253	-5,028	9,281	-184.58%

At the end of December 2018, EH Ré SA’s Gross Earned Premiums was at 453M€, 4.1% down compared to 2017. In 2018, gross Claims costs amounted to -172M€ down by 9.7% compared to 2017. This evolution is the combination of a low claims frequency on the current attachment year and a quite stable run off. In addition, the Acredia & Cosec business were no longer ceded to EH Ré SA.

The Gross operating expenses were at -154M€, 4.3% lower than last year.

In 2018, the Outward result was -123M€ decreasing by 2.4% compared to 2017.

Accordingly, the EH Ré SA’s net technical result was 4.3M€ compared to -5.0M€ in 2017.

A.2.2. Underwriting performance by material geographical area

The following table summarizes the underwriting performance split by regions.

Figure 3: **EH Ré SA Underwriting performance per regions and LoBs**

Key figures per region	Trade Credit business								
	EH NEUR	EH FRANCE	EH APAC	EH MMEA	EH WA	Others[1]	**Trade Credit business TOTAL**	Surety & guarantee business	Fidelity
Gross earned premiums	**-235,376**	**-1,425**	**-52,231**	**-11,522**	**-107,753**	**-18,932**	**-427,240**	**-25,568**	**-144**
vs Q4 2017	*-221,141*	*-3,935*	*-52,165*	*-1,859*	*-105,050*	*-59,163*	*-443,312*	*-28,974*	*130*
Total Claims	**116,493**	**230**	**31,923**	**-14,514**	**30,131**	**-2,201**	**162,062**	**9,772**	**-58**
vs Q4 2017	*116,567*	*-6,517*	*47,190*	*-22,600*	*30,999*	*27,477*	*193,115*	*-2,789*	*-36*
Loss Ratio	**-49.5%**	**-16.1%**	**-61.1%**	**126.0%**	**-28.0%**	**11.6%**	**-37.9%**	**-38.2%**	**40.5%**

(1): Others include Solunion, Accredia & Cosec (run off business who now cedes to EH Re AG)

The evolutions are mainly explained by the following movements:

- Trade credit:
  - France is ceding run-off business only, as the new business is ceded to EH Re AG directly, therefore the premium ceded are decreasing significantly compared to the previous years;
  - Northern Europe: this region continues to cede its Trade Credit LoB to EH Ré SA and the premium ceded increased by 6% compared to 2018 mainly driven by the development of the business in the region;
  - MMEA includes Italy (run-off only), Greece and Turkey Stop Loss:
    - Q4 2017: premium cession of 1,859M€ was impacted by a rebate effect (expense for EH Ré SA) amounting to 9M€
    - Greece continues to cede to EH Ré SA whereas the new business of Italy (as from the treaty year 2016) is ceded to EH Re AG directly
  - APAC is ceding to EH Ré SA as from the treaty year 2016 onwards. Its claims ratio has improved in 2018 thanks to the ongoing positive evolution of attachment years 2016 and 2017.
- Surety & guarantee business:
  - The premium decrease is mainly driven by Northern Europe. Since treaty year 2017 this LoB is ceded to EH Re AG directly and only run-off is remaining in EH Ré SA, therefore the premium ceded to EH Ré SA decreased compared to 2017.
  - The increase in claims is mainly a result of a negative run-off from EH Poland and the AZ entities where IBNRs have been adjusted to align reserving methodologies.

A.3. Investment Performance

As part of EH Group, EH Ré SA performs analyses and discloses its reports and publications on an IFRS basis.

A.3.1. Income and expenses arising from investments

The following table summarizes EH Ré SA's investment performance at an aggregated level:

Figure 4: **EH Ré SA aggregated Investment Performance**

In K€	2018	2017	Δ	%
Current income from bond	982	2,291	-1,309	-57.1%
Current income from cash and other	35	0	35	
Current investment income	1,017	2,291	-1,274	-55.6%
FX result (net)	839	937	-98	-10.5%
Investment expenses	336	-205	-131	63.8%
Real. G/L, imp. (net) fixed Inc.	0	-	0	0%
Realized gains/losses	0	-	0	0%
Total investment income (incl. interest expenses)	1,520	3,023	-1,503	-49.7%

The investment income amounted to 1.5M€, significantly down compared to 2017 (-50%), driven by lower income from bonds (0.98M€ in 2018, versus 2.3M€ in 2017).

Exchange rate (FX) result remained stable, whereas the investment expenses increased, mainly due to high commission from the custodian bank.

A.3.2. Gains and losses recognized directly in equity

Figure 5: **EH Ré SA Gains and losses recognized directly in equity**

In K€	Subscribed capital	Revenue reserve	Unrealized gains & losses	Shareholder equity
Opening balance shareholder equity	16,222	79,364	1,400	96,986
Net income of the current year	0	5,254	0	5,254
AFS, Bonds investments, unrealized gains/losses	0	0	-562	-562
Closing balance shareholder equity	16,222	84,618	838	101,679

The overall equity increase is mainly due to the increase in net result.

A.3.3. Investments in securitization

EH Ré SA invested in covered and mortgages securities.

The following table summarizes the details of those investments.

Figure 6: **EH Ré SA Investment in securitization**

	In M€	Exposure	Exposure as % of assets
As of 31.12.2017	Mortgages	7	3.70%
	Covered	36.2	19.0%
	Total	**43.2**	**22.7%**
As of 31.12.2018	Mortgages	7.0	3.55%
	Covered	38.1	19.25%
	Total	**45.1**	**22.8%**

The rationale behind those investments is disclosed below:

- Mortgages: in 2018, the mortgages amounted to 7M€, stable compared to 2017;
- Covered: exposure in covered bonds in 2018 was stable vs. 2017.

A.4. Performance of other activities

EH Ré SA did not have any other source of income and expenses during the reporting period.

A.5. Any other information

There is no other material information regarding EH Ré SA's business and performance to be disclosed.

B. System of governance

The BoD has established an effective system of governance which provides for sound and prudent management and is proportionate to the nature, scale and complexity of the operations of EH Ré SA.

- Written policies covering risk management, internal control, internal audit, actuarial Function, compliance and outsourcing have been implemented and are regularly reviewed;
- The system of governance is well structured around the committees and Key Functions with the three lines of defence principle being respected;
- The current owners of the governance functions are all Fit and Proper;
- The risk management system covers underwriting and reserving, investment and Asset Liability Management (ALM), Operational Risk management and reinsurance and other risk mitigation techniques;
- EH Ré SA conducts at least every year an ORSA that takes into account the overall solvency needs, the risk profile and Risk Appetite and the requirements regarding the determination of the TP.

B.1. General information on the system of governance

B.1.1. Structure of the system of governance

There have not been any material change in the system of governance over the reporting period.

The governance bodies mentioned below meet at the following frequencies:

- The BoD meets as often as necessary and at least three times a year;
- The Audit Committee takes place minimum twice a year;
- The Financial Committee (FiCo) takes place during or before each BoD meeting;
- The BoM meets as often as required in the interests of EH Ré SA, generally on a bi-weekly basis;
- The Risk Committee (RiCo) takes place on a quarterly basis;
- The Loss Reserve Committee (LRC) takes place at least 4 times per year;
- The Underwriting Committee takes place on a quarterly basis;
- The Integrity Committee takes place at least bi-annually.

B.1.1.1. The Board of Directors

The role of the BoD is to decide on the strategy of EH Ré SA, the budget, the appointment of the key managers (BoM), review the quarterly accounts, solvability as well as other topics of interests for EH Ré SA. It defines the strategic objectives and oversees their implementation. Also, it defines the financial strategy.

The board meetings' agenda are clarified below:

- At the first board meeting of the year (taking place in March/April), the annual accounts of the previous year have to be presented and compared to the initial budget;
- At the second respectively third board meeting of the year (taking place in September/October), the half-year accounts have to be presented and compared to the budget;
- At the last board meeting of the year (taking place in November/December), the budget for the next year has to be presented;
- At each board meeting, a comparison between the budget and the actual activity must be presented.

In addition, any other topic in relation to the management and the interests of EH Ré SA will be proposed at the agenda for discussion.

B.1.1.2. The Audit Committee

Until 2016 the Audit Committee set up by the BoD of EH Re AG also covered EH Ré SA. Following changes in Luxembourg law, a separate Audit Committee has been set up for EH Ré SA in December 2017.

The Audit Committee is in charge of the following topics:

- Review that company's risks and internal controls are well managed and under control;
- Internal and external auditors follow up;
- Accounts (closing and quarterly accounts) and external auditors "management letter" review;
- Internal audit activity review (annual report, specific review if requested);
- Annual Audit Program review (final validation has to be provided by the EH Group's Shareholder Audit Committee);
- If needed, audit program modification in coordination with the Group Audit Director; and
- Review of legal and compliance report.

B.1.1.3. The Financial Committee

The FiCo reviews the investment strategy of EH Ré SA, reports the financial performance of the investments portfolio and gives recommendations to the management according to the guidelines defined by the Group FiCo and the strategy defined by the BoD. It meets before or during each BoD meeting.

B.1.1.4. The Board of Management

There is no specific BoM of EH Ré SA. However, EH Ré SA outsources the usual tasks of the BoM to the BoM of EH Re AG.

Also, there is a management body including the EH Re management team and AON Insurance Managers (Luxembourg) S.A. empowered through a Mandate Agreement. The key decisions on the management of EH Ré SA are taken by at least two members of the BoD and/or by the BoM of EH Re AG duly empowered through the Service Level Agreement (SLA). The daily administrative management of EH Ré SA as well as the contacts with the local authorities are outsourced to AON.

The main tasks and responsibilities of the BoM is the daily management of EH Ré SA within the scope of the strategy defined by the BoD.

The BoM is a collective decision-making body exercising its power collectively. However, the duties and responsibilities for managing EH Ré SA are allocated among its members with the BoD approval.

The members represent the key functions of EH Ré SA: General Management, Finance, Operations, Compliance and Underwriting. The BoM shares the supervision of the activities and functions within EH Ré SA. Each member has to inform the other members about his areas of responsibilities and actions implemented in the scope of these responsibilities. Also, each member informs the other in case of any change in processes and/or operational methods in his area of responsibilities impacting or not the other functions.

B.1.1.5. The Risk Committee

Since both companies EH Re AG and EH Ré SA, referred to as Euler Hermes Reinsurance (EH Re), are fully integrated from an administrative perspective as well as from a business perspective, they are automatically within the scope of the RiCo which has a global view on both entities.

The EH Re RiCo has a specific and key role within the EH Re (including both EH Re AG and EH Ré SA) risk management system along with the other Committees (i.e. the investment strategy and underwriting strategy).

It ensures transparency on EH Re capitalization and risk profile, the monitoring of the implementation of the SII directives within EH Re, establishing a comprehensive risk culture and processes within EH Ré SA by means of open communication and a common understanding of the risk profile.

B.1.1.6. The Loss Reserve Committee (LRC)

As for the RiCo, EH Re AG and EH Ré SA are automatically within the scope of the LRC which has a consolidated view on both entities.

The role of the EH Re LRC is to validate the level of the IFRS technical reserves for loss payments and salvages & subrogation of EH Re (including both EH Re AG and EH Ré SA) to be booked in the EH Re AG and EH Ré SA financial statements at the end of each quarter. The objectives are:

- To maintain adequate technical reserves within EH Re AG and EH Ré SA balance sheet ensuring the companies have at any time sufficient reserves to face its operational commitments;
- To monitor the claims’ developments of the ceding EH Group and affiliated companies and eventually propose additional reserve depending on the economic environment and/or the closest claims’ development situation;
- To monitor and reconcile the estimated cessions of the ceding EH and affiliated companies with the reserve booking information as per date of the EH Re LRC; and
- To ensure the consistency of EH Re’s reserving with EH Group’s booking rules and guidelines.

B.1.1.7. The Underwriting Committee

As for the RiCo, EH Re AG and EH Ré SA are automatically within the scope of the Underwriting Committee which has a global view on both entities.

The role of the EH Re Underwriting Committee is to review the business placed within EH Re's treaties across all LoBs and from all cedants (EH Group, Allianz and Non Allianz Group) to ensure reinsurance coverage and profitability across the portfolio. The objectives are:

- To review the performance of business lines being written;
- To review the aggregation of risks being underwritten;
- To review the products that are being placed within the treaties;
- To review all special acceptances that fall outside of the standard coverage;
- To review and update on actual and potential large claims; and
- To review the monitoring and reporting of exposures across business lines.

B.1.1.8. The Integrity Committee

As for the RiCo, EH Re AG and EH Ré SA are automatically within the scope of the Integrity Committee which has a consolidated view on both entities.

The EH Re (including EH Re AG and EH Ré SA) Integrity Committee is a governance body that aims to provide oversight over the prevention and detection of fraud, corruption and corporate wrong-doing, including the handling of whistleblowing cases. The objectives are:

- To establish a corporate sense of integrity standards;
- Coordinate among various functions (Compliance, Legal, Audit, Risk, Communications and Human Resources) and monitor jointly activities in the field of corruption, fraud and whistleblowing;
- Instil a corporate sense on integrity risks, support and validate compliance risk assessments (e.g. corruption and fraud);
- Ensure transparency and reporting to EH Re compliance and/or EH Group Compliance, coordinate actions about cases including whistleblowing; and
- To ensure appropriate and consistent responses to misconduct.

B.1.1.9. Key Functions

EH Ré SA has the following independent Key Functions:

- Head of Internal Audit;
- Head of Compliance, outsourced to EH Re AG. The Compliance Officer has a matrix manager who is the EH Group Compliance Officer. The Compliance Officer is also invited to the Integrity Committee, BoM and RiCo meetings where he presents the compliance status and issues;
- Head of Risk Management, outsourced to EH Group Risk Management. There is a quarterly EH Re RiCo where the risk status is presented. The Key Function is also in direct contact with the CAA;
- Responsible Actuary (Actuarial Function), outsourced to EH Group Actuarial. The Responsible Actuary prepares the quarterly LRC and presents it. The Responsible Actuary is also invited to the RiCo.

Regarding SII regulation, Compliance, Actuarial Function and Internal Audit operate within the risk management framework which is composed of three lines of defence.

Detailed information on activities, processes, implementation and independence of the four independent Key Functions mentioned above is disclosed in the following sections.

B.1.2. Remuneration policy

B.1.2.1. Remuneration appropriateness

To ensure the appropriateness of the remuneration of individuals and general pay levels, vertical and horizontal benchmarking is performed.

B.1.2.2. Target Setting Principles

According to a business specific strategy, a three-year plan is prepared and aggregated to form the financial plans for EH Ré SA.

Selected key performance indicators from the financial plans form the basis for the financial and operational targets that reflect the strategy of EH Ré SA are designed to:

- Avoid conflicts of interest;
- Avoid encouraging risk-taking that exceeds the risk tolerance limits of EH Ré SA;
- Reflect appropriately the material risks and their time horizon; and
- Take into account the overall success of EH Ré SA.

B.1.2.3. Principles for Board of Directors remuneration

Mandates carried by members of the BoM of EH Group or members of the BoM of EH Re AG in the BoD of EH Ré SA are not separately compensated.

B.1.3. Material transactions

There has not been any transaction with shareholders or members of the BoM or the BoD during the year 2018.

B.2. Fit and Proper requirements

B.2.1. Description of requirements for « Fit & Proper »

A Fit and Proper standard for Senior Management and Key Function holders across EH Ré SA is established to define core principles (general principles, Fitness and Propriety) and processes.

B.2.1.1. Roles requiring regulatory Fit & Proper assessment

Fit & Proper assessment must be carried out for individuals appointed within EH Ré SA's scope. This includes the following people:

- **Members of the BoD** are responsible for overseeing and advising the BoM on carrying out the business;
- **Senior Management** is defined as members of the BoM, which is the collective body responsible for the steering of EH Ré SA;

Key Function holders are the persons responsible for carrying out the independent key control functions. They are the heads of the respective departments with a direct access to the BoM. For each Key Function there is one Key Function holder. The Key Function staff comprises further persons working within Key Functions, including those with a direct reporting line to the Key Function holders and, in addition, experts with independent decision rights.

Each Key Function holder and the Key Function staff must demonstrate the Fitness & Propriety required for the fulfilling of the tasks assigned to him/her on an ongoing basis.

B.2.1.2. Details on Fit & Proper requirements

B.2.1.2.1. Fitness

The qualifications, knowledge and experience required depend on the position.

Members of the BoD have to:

- Understand the business conducted by EH Ré SA;
- Be able to assess the risks involved;
- Enforce changes in management.

Members of the BoM and Senior Management collectively possess qualification, knowledge and expertise about:

- Insurance and financial markets;
- The business strategy and business model of EH Ré SA;
- EH Ré SA's system of governance;
- Financial and actuarial analysis; and
- Regulatory framework and requirements.

Appropriate diversity of qualifications, knowledge and experience within the BoM are ensured and the collective fitness is maintained at all times when changes occur within the BoM.

Each **Key Function holder** must possess the fitness required to fulfill the tasks assigned to him by the policy of the respective Key Function, if any, and applicable law.

In cases where a Key Function is outsourced according to the EH Ré SA Outsourcing policy, the Fitness requirements for the person are identical to those applying to the respective Key Function holder himself.

B.2.1.2.2. Propriety

The Propriety assessment consists in the consideration of any hint which may cast a doubt on a person's Propriety. Such hints are:

- Any conviction of a criminal offence, in particular offences under any financial services legislation, breaches of companies, insolvency and consumer protection laws;
- Any conviction of a relevant disciplinary or administrative offence;
- Any administrative sanctions for non-compliance with any financial services legislation and any current investigation or enforcement action by any regulatory or professional body;
- Any relevant inconsistency with regard to a candidate's education or professional experience; and
- Any further circumstance resulting in the risk of financial crime, non-compliance with law or the jeopardizing of the sound and prudent management of EH Ré SA business.

B.2.2. Description of processes and procedures in place

Sound processes during recruiting, regular and ad hoc reviews as well as appropriate training are necessary to ensure Fitness and Propriety. These processes are outlined below. They are used by the respective HR function for every hiring, promotion, transfer, ongoing and ad hoc assessments.

B.2.2.1. Processes and procedures for ensuring Fitness and Propriety at recruitment

EH Ré SA ensures that, during the recruiting process of any member of the **Senior Management** or of a **Key Function holder**, whether internal or external to the EH Group, their Fitness and Propriety are assessed. An employment or service contract may only be entered into after the successful completion of the following recruiting process:

- Job descriptions or fitness criteria checklists are used to fill open positions for members of Senior Management other than members of the BoM and for Key Functions, both internally and externally;
- All candidates submit a curriculum vitae at the beginning of the recruiting process, except for internal candidates for Key Function staff positions who have been employed by EH Group for more than four years;
- The final candidate for a position within the Senior Management or as Key Function holder is subject to a background check including copies of his required qualifications, a proof of good reputation and of no previous bankruptcy, a reference check and a public media search conducted by the recruiting HR function;

Members of the BoD are elected by the shareholders. All candidates nominated for election must fulfill the applicable Fit and Proper requirements.

B.2.2.2. Processes for ensuring ongoing Fitness and Propriety

Members of the BoD can be subject to further Fit & Proper assessments according to local laws and regulations.

Fitness and Propriety of members of Senior Management and Key Function holders is reviewed on an ongoing basis and confirmed through annual performance reviews which include:

- The assessment of integrity and trust which both form an integral part of the mandatory behavioural targets; and
- The assessment of the leadership and management skills as applicable, as well as the relevant knowledge for the specific role and the relevant Fitness criteria checklist or job description.

Additionally, Career Development Conferences (CDCs) are performed annually, where persons of a certain seniority level including Senior Management and Key Function members are assessed on their sustained performance and Fitness in their current role as well as their potential to carry out new roles.

Ad hoc reviews are required in certain situations, which give rise to questions regarding a person's Fitness or Propriety, e.g. in case of:

- Relevant breach of the EH Ré SA Code of Conduct;
- Failure to submit required self-disclosure statements, e.g. statements of accountability or disclosure of security trading;
- Investigation or any other procedure possibly leading to a conviction of a criminal, disciplinary or administrative offence (in the case of an administrative or disciplinary offence, the relevance to the EH Ré SA business and the person's position are taken into account), or to administrative sanctions for non-compliance with any financial services legislation;
- Evidence of financial or accounting irregularities in her/his field of responsibility;
- Signs of indebtedness such as undisputed writs of execution or garnishment for payments owed by the Key Function holder;
- Evidence of procedure to withdraw a professional license or exam against the person;
- Substantiated complaint within EH Ré SA (e.g., whistleblowing) or from supervisors; and
- In case of a "does not meet" or "partially meets" rating within the annual performance assessment or in case of "low sustained performance" in the CDC (left boxes in the performance and potential matrix).

In the context of an ad hoc review, not only the particular circumstance which gave rise to it, but the Fitness and Propriety of the person concerned as a whole are reassessed.

B.2.2.3. Outsourcing of a Key Function

In cases where a Key Function is outsourced according to the EH Ré SA outsourcing policy, the Due Diligence of the Provider by the Business Owner includes a description of the Fit & Proper Test procedures used by the Provider to ensure the Fitness and Propriety of its personnel.

B.2.2.4. Assessment results

Based on the information gathered during recruiting, a regular or ad hoc review or an outsourcing Due Diligence, each case must be assessed individually, considering the following:

- As regards Fitness, if it appears that a member of the Senior Management, a Key Function member or a candidate to such a position lacks requisite knowledge, competencies or skills, it is considered whether such deficiency can be remediated through specific professional training and if so, the person must be provided with such training;
- As regards Propriety, in addition to any indication of a possible lack of Propriety, factors to be considered include the type of misconduct or conviction, the severity of the case, the level of appeal, the lapse of time since and the person's subsequent conduct, as well as the person's level of responsibility within EH Ré SA and the relevance of the finding for the respective position (i.e. the position's exposure to integrity and fraud risks).

If a person on the BoD, in a Senior Management role or Key Function member is assessed as not Fit or not Proper, EH Ré SA must ensure careful review of the findings and consultation of the relevant departments/persons, and take appropriate action as follows:

- If it appears during the recruiting process: such candidate is not appointed or recruited;
- If a regular or ad hoc review shows that the person can no longer be considered Fit and Proper for his/her position: the person must be removed from the position without delay, in accordance with applicable employment law.

B.3. Risk management system including the own risk and solvency assessment

B.3.1. Description of Risk Management

B.3.1.1. Three lines of defence

As required by SII, EH adopted a "Three lines of defence" model for risk governance, with clear responsibilities between the different organizational functions as described hereafter:

Figure 7: **"Three lines of defence" model**

Board **Strategy, Risk Appetite and policy**		
First line: **Risk ownership**	**Second line:** **Risk control and monitoring**	**Third line:** **Independent assurance**
EH Risk taking business units supported by the management Delegated authority from the Board to: • Develop and implement the Internal Model; • Measure and manage business performance; • Develop and implement internal control and risk management framework; • Ensure that the business is managed within the agreed Risk Appetite.	**EH Risk Management, Actuarial and Compliance Functions** Provides objective oversight of the management of risk. Key responsibilities include: • Design and deployment of overall Internal Model governance framework; • Development and monitoring of policies and procedures; • Monitoring adherence to framework and strategy; • Compliance rules.	**EH Internal Audit Functions** Provides independent and objective assurance over the effectiveness of corporate standards, including assurance that the risk management process is functioning as described and identifies improvement opportunities.

B.3.1.2. Risk management implementation

Effective risk management is based on a common understanding of Risks, clear organizational structures, and comprehensively defined risk management processes.

EH Ré SA BoM is responsible for sound organizational and operational structures and procedures to ensure compliance with the risk management policy. More specifically, the responsibilities are:

- Supporting the first line of defence by helping ensure employees at all levels of EH Ré SA are aware of the risks related to their business activities and how to properly respond to them;
- Implementing EH Ré SA risk policy into EH Ré SA system of governance and in particular EH Ré SA corporate rules as appropriate to EH Ré SA business and risks;
- Developing and implementing EH Ré SA Risk Strategy, Appetite and limits in line with EH Ré SA business strategy and the Group Risk Strategy;
- Establishing a Risk Management Function responsible for the independent risk oversight under the responsibility of the EH Ré SA board member in charge of Finance;
- Implementing the risk management framework and corresponding processes, including the solvency assessment; and
- Approving the IM on an annual basis and ensuring it fits the company's risk profile and meets all regulatory requirements.

The Risk Management Function responsibilities are the operational execution of:

- Supporting the first line of defence by helping ensure employees at all levels of EH Ré SA are aware of the risks related to their business activities and how to properly respond to them;
- Regularly reviewing, on at least an annual basis, the consistency between the Risk Strategy and business strategy, and proposing changes to the Risk Strategy and Risk Appetite to the BoM;
- Assessing on a regular basis the adequacy of the Risk Policy Framework towards fulfillment of regulatory requirements and achievement of the Risk Strategy and ensuring updates occur as appropriate, specifically with respect to the risk policy and standards for the management of:
    - Underwriting and reserving;
    - ALM;
    - Investment Risk;
    - Liquidity Risk;
    - Concentration Risk;
    - Operational Risk;
    - Reinsurance and other insurance risk mitigation techniques.
- Overseeing the execution of the risk management processes;
- Monitoring and reporting EH Ré SA risk profile including the calculation and reporting of the RC;
- Supporting the BoM through the analysis and communication of risk management related information and by facilitating the communication and implementation of its decisions;
- Escalation to the BoM in case of material and unexpected increases of risk exposure;

- Reporting the solvency assessment as well as any further material risk management related information to EH Group Risk & Capital Management (R&CM); and
- All operational activities around the maintenance, ongoing monitoring, validation and improvement of the IM and its components.

The Risk Management Function is under the competence field of the BoD member in charge of functions related to Actuarial Function, Risk Management and Compliance. It has intense interfaces and a close cooperation with other functions.

The Chief Risk Officer (CRO), as head of the risk management department to which the Risk Management Function has been assigned is the relevant Key Function holder. He possesses the qualification, experience and knowledge required to manage the risks relative to the responsibilities of its role.

The RiCo is responsible for:

- Preparing and proposing to the BoM the Risk Strategy, Risk Appetite and limits;
- Operational execution of the risk limit framework and overseeing the risk management system;
- Preparing and proposing to the BoM the solvency assessment; and
- Defining and operationalizing group-wide risk standards (including the corporate rules of the Risk Policy Framework).

The FiCo is responsible for approving individual financing transactions in line with RC considerations.

B.3.1.3. Risk management processes

EH Ré SA establishes for all material quantified and non-quantified risks a comprehensive risk management process which incorporates:

- Risk identification;
- Risk assessment;
- Risk response and control activities;
- Risk monitoring; and
- Risk reporting.

The process is implemented and conducted within the confines of a clearly defined Risk Strategy and Risk Appetite and periodically assessed for adequacy.

At a minimum, EH Ré SA follows to the hereunder quantitative and qualitative risk management process requirements:

- **Solvency assessment**: a comprehensive assessment of all risks inherent to the business in order to determine whether current and future capital will be sufficient to ensure on-going solvency against these risks. The solvency assessment constitutes the ORSA. EH Ré SA BoM discusses the solvency assessment, takes appropriate actions based on the findings and reports the outcome to their local Supervisor;
- **RC calculation**: EH Ré SA calculates their RC with respect to all material risks of the risk categories Market, Credit, Business and Operational Risk (using the Integrated Risk and Control

System (IRCS) and Scenario Analysis (ScA), further details can be found in section C.5.1), as well as Underwriting Risk on a quarterly basis;

- **Top Risk Assessment (TRA)**: a periodic analysis of all material quantified and non-quantified risks to identify and remediate significant threats to financial results, operational viability or the delivery of key strategic objectives. The TRA covers all risk categories as well as risk concentrations. EH Ré SA performs an annual full run as well as quarterly reviews of the TRA and reports their results to Group R&CM;
- **Further risk management processes**: in addition to the TRA, EH Ré SA manages all material risks of all risk categories through the application of specific risk management processes;
- **Risk management Framework Quality Assurance:** self-assessment of the effectiveness of the local Risk Management Function, as well as implementation maturity of the risk management framework and corresponding risk management processes are performed at Group level.

B.3.2. Governance of the Internal Model

B.3.2.1. Responsibilities

In compliance with EH Ré SA Model Governance framework, the BoD is responsible for approving the application and use of the IM for calculating the SCR. In addition, the BoD is responsible for confirming the ongoing appropriateness of the IM at least annually by signing off the Annual Validation Report.

The EH Ré SA CRO is responsible for ensuring compliance with EH Group standards on model governance aligned with Allianz. Responsibilities of EH Ré SA CRO include:

- Ensure model validation is performed and documented in accordance with the EH Group standards on model governance aligned with Allianz, i.e. adequate independence and skills of model reviewers;
- Ensure that the persons providing expert judgment possess adequate skills and experience;
- Ensure that the risk function has the necessary resources to endorse its responsibilities;
- Ensure that all relevant documentation in the model inventory and the Internal Model Approval Process (IMAP) documentation repository is kept complete and up-to-date in particular after a model change and that the documentation standards are fulfilled.

The following roles, consisting of either an individual or group of individuals, are established in order to facilitate adherence with the requirements of EH Ré SA's Standard:

- Model approvers are responsible for:
  - Initial approval of the models they are responsible for;
  - Deciding on a remediation plan if the validation results for models they are responsible for indicate findings that have to be addressed.
- Model Owners (MOs) are responsible for:
  - Ensuring the existence of adequate model documentation;
  - Developing model in accordance with the established design requirements;
  - Overseeing the implementation of model controls;

  - Carrying through activities to assess the appropriateness of the results produced by the model;
  - Assessing the data quality and define appropriate data update cycles;
  - Signing-off of expert judgment.
- Independent reviewers may be independent internal or external parties and are responsible for independent validation of models and reporting of the results according to the specifications in the guideline for model validation;
- The EH Ré SA model governance coordinator supports the EH Ré SA CRO by:
  - Gaining approval of the validation plan by EH Ré SA RiCo;
  - Coordinating the Annual Model Validation plan within the relevant legal entity;
  - Collecting suitability assessment results from MOs and documenting these in the relevant template for EH Ré SA;
  - Gathering independent validation results of local model components and documenting these in EH Ré SA Annual Validation Report;
  - Following-up the status of the local remediation plans and disclose a status of open and closed findings in EH Ré SA Annual Validation Report;
  - Regularly communicating the status of local validation plan to the Model Governance Coordinator at Group level;
  - Coordinating the execution of the Annual Model Validation Report.
- EH Ré SA Actuarial Function, involved in risk modelling topics affecting their area of expertise, including dependencies with other risks.

B.3.2.2. Governance of trade credit insurance & surety model

As EH Ré SA uses a locally developed model for RC purposes and for steering its core business, namely trade credit insurance and surety, the following refers to the governance of this model.

EH Ré SA CRO is responsible for ensuring and supporting an adequate trade credit insurance and surety RC process from the data collection to the reporting and review of results. It covers:

- Accurate, complete and timely delivery of data inputs;
- High process quality standard as per internal requirements;
- Evidence of controls of data delivery and sign off;
- An audit track document covering the data preparation, storage of data and analysis of impact is an important component of the data input;
- The organization of a Parameters & Assumptions Approval committee (PAAC) to approve the model calibration;
- Robust and complete justification and documentation of expert judgments;
- EH Ré SA CRO ensures that a proper validation process is in place in the Business Unit (BU);
- The release of a Statement of accountability to EH Risk & Capital Management (R&CM).

If the requested scope of data requirements or data quality standards is not fulfilled in a certain delivery, EH Ré SA CRO is in charge of initiating issue fixing and tracking.

A PAAC is organized every quarter with the risk underwriting and finance teams in order to reinforce the expert judgment and validate the parameters.

The name of participants and the minutes of the committee must be addressed to EH R&CM with the data input. These minutes must include a presentation of the parameters and the expert judgment used to define them so they can be used for the EH Group PAAC to justify the entity position.

B.3.2.3. Material changes to the Internal Model governance

There has been no material change to the model governance in 2018.

B.3.2.4. Description of the validation process

B.3.2.4.1. Validation plan

The validation plan ensures that the IM components are reviewed on a regular basis in compliance with their expected validation cycle, taking into account their materiality and known limitations. The Validation Coordinator (VAC) together with the MO will define a validation plan as per EH Group standards on model governance and aligned with Allianz requirements.

B.3.2.4.2. Validation results

Model validation results are realized at EH level Group and are summarized in technical model validation reports which contain findings and proposed recommendations to address model limitations. The reports are ultimately reviewed by the Model and Assumptions Approval Committee (MAAC).

The reports detail the findings identified during the model review taking into account their materiality and/or potential impact on the capital misstatement.

B.3.2.4.3. Validation recommendations follow-up

Planned remediation activities are monitored using a central inventory tool and a progress status report is presented to the MAAC on a regular basis. EH Group leads the validation process of the internal model and the remediation plan for EH Ré SA.

The effective resolution of validation findings are reported both in the respective validation reports and updated in the central inventory tool.

Ultimately, a status update is provided in the annual validation report with potential impact on both RC requirements as well as on model uses.

B.3.2.4.4. Escalation Procedure

The escalation procedure is necessary in case of disagreement on the validation outcome. In particular, it occurs in the two following situations.

The escalation procedure starts with a notice of escalation submitted by the MO to the Validation with which there is a disagreement, along with the necessary documents and the Group CRO as well as the VAC are copied. The notice of escalation includes a concise summary of the concern/issue. The notice must be communicated as promptly as possible and substantiated with the necessary evidences against the validation outcome.

B.3.3. Description of ORSA process

The ORSA is a comprehensive assessment of all risks inherent to the business in order to determine whether current and future capital will be sufficient to ensure ongoing solvency against these risks. It goes beyond the determination of capital needs provided solely through application of risk capital models by additionally considering stress scenarios, model limitations and other non-modelled risks and how these risks translate into capital needs or are otherwise mitigated.

The ORSA draws upon the whole risk management system in order to conclude on the risk profile adequacy and ensures consideration of risks and capital needs from an integral part of the business decision-making process of the company.

The BoM plays an active role in the ORSA. This participation entails not only understanding and approving the outcome of the ORSA, but also steering how the assessment is to be performed, challenged the results and reflecting the results in planned management actions.

B.3.3.1. Macro process ORSA

Figure 8: **ORSA macro process**

The ORSA process is driven through five main steps:

- Update and alignment of the Risk Appetite and risk limits with the business strategy and check the alignment with EH Group requirements;
- Identification of all risks and controls to be considered, by performing several approaches;
- Assessment of all risks based on the SM. Moreover, projections of own funds, RC and solvency ratio under base case and stress scenarios;
- Steering of the risks in quantitative terms with a qualitative description of all material risks. Then, demonstration of the compliance of future business with the Risk Strategy;
- Reporting of the performed results and analysis by filling the ORSA report and diffusing it to all relevant stakeholders. The report has then to be validated by EH Ré SA BoD before any official communication. Appropriate results are shared with relevant other reporting/ analysis processes.

B.3.3.2. ORSA governance

The BoD challenges and validates the ORSA report.

EH Ré SA outsources its management including the BoM duties to the BoM of EH Re AG through an SLA. Accordingly the BoM is actively:

- Ensuring proper implementation of its standard;
- Challenging the outcome of the ORSA and signing-off the ORSA Results Report; and
- Instructing on any follow-up actions to be taken.

The RiCo is responsible for:

- Overseeing the development and implementation of the ORSA process;
- Reviewing and pre-approving the ORSA Results Report prior to submission to the BoD;
- Monitoring the execution of any follow-up actions; and
- Requesting performance of a non-regular ORSA after any events that could substantially alter the overall conclusions of the most recent (regular annual) ORSA.

Responsibilities of the risk function under the lead of the CRO include:

- Coordinating the ORSA process and preparing the ORSA Report for both regular (annually) and non-regular (upon request of the RiCo) ORSA;
- Annually assessing the compliance of the ORSA report/process with regulatory requirements;
- Reporting on the results of the ORSA to the RiCo and distributing the final ORSA Results Report to all staff with a role in the decision making processes related to business strategy, risk strategy and risk and capital management;
- Advising the BoD regarding the ORSA results; and
- Communicating with supervisory authorities.

B.3.3.3. Capital management strategy

EH Ré SA has set in place the following target capitalization ratios and limits:

- EH Ré SA targets to stay within the capital management range of the “Action Barrier” and the “Upper Bound” in the normal course of business;
- In case of a breach of the Capital Management Range in any of the two dimensions, the BoD will evaluate the situation in their next regular board meeting and evaluate any potential countermeasures to get back within the Capital Management Range;
- If EH Ré SA falls below the Minimum Capital Ratio, the BoD will take measures to re-establish the Minimum Capital Ratios in due time;
- If EH Ré SA falls below the Action Barrier during the course of the year but stays above the Minimum Capital Ratio, it is still expected to pay out the planned dividend while any adjustments will be considered to the planned dividends over the remaining plan horizon;

- If EH Ré SA drops below the Alert Barrier, the BoM is expected to establish a contingency plan in line with the Group to conserve its solvency within due time.

B.4. Internal control system

B.4.1. Description of internal control system

B.4.1.1. Internal control framework

The internal control framework is laid out in EH Ré SA'S governance and control policy, as approved by the BoD.

EH Ré SA applies an IRCS to support effective management of Operational Risks, including reporting risks and compliance risks (e.g. information security, business continuity outsourcing and legal). The EH Ré SA internal control system has the following objectives:

- To safeguard EH Ré SA's existence and business continuity;
- To create a strong control environment, by ensuring that all personnel are aware of the importance of internal control and their role in the internal control system;
- To conduct control activities that are commensurate with the risks carried by EH Ré SA's activities and processes;
- To provide relevant information to the management bodies as part of their decision-making processes; and
- To ensure compliance with the applicable laws and regulations.

With respect to the areas of control, activities and reporting aspects, the controls are performed within EH Ré SA in accordance with requirements regarding independence. They are incorporated into EH Ré SA operational and organizational configuration and subject to continual review.

The internal control system encompasses different control concepts. Besides general aspects related to any control and in addition to the risk management framework, specific controls are also performed, in particular around entity level controls, financial reporting, IT, risk capital calculation, underwriting (including products and distribution) investments and protection/resilience. They are supplemented by management reports.

B.4.1.2. General control elements

The following principles and approach serve as guidance for the implementation of EH Ré SA's internal control system:

- It is important to safeguard the separation of duties to avoid excessive risk-taking and potential conflicts of interest;
- Material decisions must be taken by at least two representatives of the operational entity under review, even if, under local regulations, EH Ré SA may be represented by a single person (four-eyes principle);
- In the interests of sound business judgement, the decision-making processes must be applied at all management levels that hold relevant information, notably through impartial access to necessary information;

- The Committee of Sponsoring Organizations (COSO) framework and part of the Control Objectives for Information and Related Technologies (COBIT) model apply to the financial reporting process; and
- It is important to maintain structured, documented processes for which key controls are in place and function effectively.

Specific control areas include:

- Integrated Risk and Control System (IRCS);
- Controls around information security:
    - Information security framework for IT security: Euler Hermes has developed and operates the Group Information Security Framework (GISF) for IT security;
    - IT controls around financial reporting.
- Controls around the SCR;
- Controls around Underwriting and Products; and
- Controls over investments.

B.4.2. Implementation of Compliance Function

B.4.2.1. Assigned Compliance Risk Areas

The Compliance Function develops, implements and oversees the compliance framework for the Assigned Compliance Risk Areas. The Assigned Compliance Risk Areas are the following:

- Fraud and corruption;
- Money laundering and terrorism financing;
- Economic sanctions;
- Capital markets compliance;
- Data privacy by the end of December 2018;
- Antitrust compliance;
- Sales practices compliance/customer protection;
- Regulatory compliance; and
- Foreign account tax compliance act.

B.4.2.2. Compliance Management System

As part of the internal control system of Euler Hermes, the Compliance Function exercises a set of activities mainly by establishing and maintaining an adequate and effective Compliance Management System, reflecting the actual risk exposure and the principle of proportionality. The Compliance Management System includes the following tasks:

- Perform compliance risk assessment;
- Monitor legal changes;

- Establish a compliance plan;
- Compliance reporting on a regular basis to the top management and, where applicable, to the Audit Committee;
- Compliance incident handling and crisis management;
- Compliance quality assurance; and
- Clear assignment of compliance responsibilities.

The Compliance Function escalates on an ad hoc basis severe instances of non-compliance or material changes in the compliance risk exposure to the Senior Management.

B.4.2.3. Governance of the Compliance Function

The BoM is responsible for sound organizational and operational structures and procedures at its level to ensure compliance with the compliance policy. It establishes and maintains an appropriate and effective Compliance Function. It must decide on and clearly assign the relevant risk areas for the Compliance Function.

The Compliance Function holder is responsible for the implementation of Euler Hermes compliance principles and procedures. He possesses the qualification, experience and knowledge required to manage the compliance risk relative to the responsibilities of his role. He has a direct reporting line to the Head of EH Group Compliance and is given direct access to the BoM.

The Compliance Function has regular interfaces and a close cooperation with other functions. It has the right to communicate with any employee and obtain access to any information, records or data necessary to carry out its responsibilities, to the extent permitted by law.

B.5. Internal Audit Function

B.5.1. Internal Audit Function implementation

The Internal Audit Function is common to the EH Group. This function is performed independently so that it reports to the EH Group Chief Executive Officer (CEO) and to the “EH Group” Audit and Risk Committee.

Generally, EH Ré SA’s Internal Audit team performs seven types of audit that cover all the Company’s IT and business activities:

- Standard audits: review of a specific process of one entity;
- Transversal audits: review of one process simultaneously in several large OEs;
- Vertical audits: review of all processes in one function and in a large OE;
- Sovereign audits: review of all processes in a small OE;
- Condensed risk assessments;
- Local audits: audits required by local regulations;
- Ad hoc audits: unscheduled audits required by General Management

The EH Group Audit team draws up a five-year plan that factors in the level of risk inherent to the Company's activities. This risk mapping is updated every year so that the following year's audits can be planned out, following consultation with the BoD. The plan is approved by the Chairman of the BoD and the Audit and Risk Committee in the final quarter of the previous year. Each audit is carried out in accordance with the audit plan.

The audit activity is governed by an audit charter which is reviewed at least once a year. It sets out in details the missions and organization of the various control levels within the Group and its subsidiaries. It is supplemented by the development of audit standards and procedures at local and Group levels.

As third line of defense, execution of regular controls, e.g. for distribution networks, is not in scope of the Internal Audit Function.

Management is responsible for implementing related corrective actions and for remediating identified audit findings.

B.5.2. Internal Audit Function activities

Internal audit service is competent to investigate and assess the appropriateness and effectiveness of both the internal control and the way the responsibilities assigned are assumed. In particular, he checks:

- Compliance with processes and corresponding policies;
- Risks control;
- The reliability of financial and operating information;
- The reliability of external reporting;
- IT systems continuity and reliability; and
- The correct functioning of the various services.

Internal audit main activities are described hereafter:

- Issuance of an audit report for each audit which includes detailed results and appropriate recommendations as well as a summary of the most important results including an overall assessment of the auditee's risk and internal control status;
- Performance of follow-up actions and implementation of escalation steps that are outlined and prescribed within the Allianz Standard Audit Manual (SAM) especially when deficiencies are not remedied in a timely or appropriate manner;
- Giving advice on internal control related topics to EH Ré SA management. This may not jeopardize its core audit activities and the fulfilment of its audit plan and thus the Head of internal audit of EH RÉ SA confirms to the EH CEO (and Audit Committee), at least annually, the independence of the internal audit activity.

B.5.3. Independence and objectivity of the Internal Audit Function

In order to ensure the objectivity and the independence of the Internal Audit Function, the following specific requirements have been set:

- No auditor holds an operational position;

- Any bonus received by Internal Audit function representatives is based exclusively on achieving qualitative individual targets rather than on the financial results of EH Ré SA;
- Internal auditors and the Internal Audit Function have the authority to express assessment and recommendations but cannot give orders (except in cases of suspicion of illegal activities/fraud);
- Head of EH internal audit reports directly to the EH Group CEO and to the Audit Committee. The Head of EH internal audit must regularly have direct interaction with the CEO and the Chair of the Audit Committee;
- EH internal audit has the right to communicate with any employee and obtain information, records or data necessary to carry out its responsibilities, to the extent legally permitted. EH internal audit has the responsibility and the right to review activities, procedures and processes in all areas of the EH Group, without limitation;
- Internal auditors possess analytical skills, knowledge in the field of finance, accounting and IT as well as an understanding of the organisation of insurance and/or finance companies;
- Enhancing independence and objectivity, and avoiding potential conflicts of interest, tenure of internal audit Key Function holders is limited to eight years.

B.6. Actuarial Function

B.6.1. Implementation of the Actuarial Function

In accordance with operational and governance structure of EH Ré SA, Actuary falls within the competence field of the BoD member in charge of functions related to Actuarial Function, Risk Management, Compliance.

The responsible for the Actuarial Function are experts in actuarial work and financial mathematics.

The Actuarial Function of EH Ré SA is outsourced to EH Re AG.

The EH Ré SA BoM is responsible for sound organizational and operational structures and procedures to ensure compliance with the actuarial policy. It establishes and maintains an appropriate and effective Actuarial Function, in proportion to EH Ré SA's risk exposure. It decides on and clearly assigns the relevant tasks for the Actuarial Function. The Actuarial Function holder is approved by the EH Ré SA BoM.

The Actuarial Function holder is defined as the Responsible Actuary. The nomination of the EH Ré SA Actuarial Function holder is pre-aligned with the EH Group Actuarial Function holder. He is responsible for the implementation of the EH Group's Actuarial Function principles and procedures and is empowered by local management to fulfil this task. The Head of the EH Ré SA Actuarial Function has a direct access to the EH Ré SA BoM.

An appropriate committee structure or comparable management meetings is set up in order to enable the Actuarial Function to fulfil its roles and responsibilities. The Actuarial Function holder is a member of the LRC.

The Actuarial Function has intense interfaces and a close cooperation with other functions.

The Actuarial Function (as a second line of defense function) and the Internal Audit Function (third line of defense) are separated with no reporting of one function into the other. However, this does not exclude to jointly exercise specific tasks in the course of investigations.

Actuarial tasks are included in the audit program and methodology of the Internal Audit Function, including a periodic assessment of the adequacy and effectiveness of the Actuarial Function. The head of the Internal Audit Function keeps the Actuarial Function holder informed of any audit findings relating to actuarial tasks – and vice versa.

Upon request, the Euler Hermes Internal Audit Function holder can attend the LRC at his/her own discretion especially in order to test the operational effectiveness of the committee.

B.6.2. Actuarial function activities

The tasks and processes described in the following section apply to the actuarial function:

- Reporting of an Actuarial Function Report on an annual basis;
- Coordination of the calculation and monitoring of technical reserves;
- Opinion on underwriting, pricing and product development on an annual basis;
- Opinion on the reinsurance policy and program on an annual basis;
- Contribution to risk management by providing an actuarial perspective which is materialized through the following items:
    - Delivery of data and results for the parameterization of RC models;
    - Assessment of insurance risks;
    - Providing all the results and conclusions resulting from the analyses to R&CM on a regular basis as well as to the RiCo or comparable management meetings.
- Reporting quarterly about TP level to the LRC, communicates on its adequacy, and gets LRC approval regarding the level of those TP;
- Monitoring the setup of the Reserve Risk funding risk model and validates the capital level related to EH Ré SA TP. It also contributes to the setup of an effective risk management system.

When he establishes a report, the Responsible Actuary produces and signs an independent opinion on the actuarial processes and on the calculation stemmed from them.

B.7. Outsourcing

B.7.1. Roles and responsibilities

The BoM is responsible for sound organizational and operational structures and procedures to ensure compliance with the outsourcing policy. More specifically, its responsibilities are:

- Implementing the outsourcing policy into EH Ré SA’s system of governance;
- Ensuring definition and implementation of processes for monitoring, steering and reviewing the outsourcing of functions or Services;
- Ensuring that an outsourcing function is established; and

- Approving outsourcing where required.

The designated Business Owner ensures adherence to the outsourcing policy and fulfil all tasks that have been assigned to EH Ré SA in the outsourcing policy with respect to the outsourcing(s) for which he is responsible. In particular, the designated Business Owner is in charge of:

- Assessing whether an arrangement with a service provider qualifies as outsourcing, and if so, whether the outsourced function/Service is a Key Function or a Critical or Important function or Services (CIFS);
- Setting-up the necessary Business Plan and risk assessment including the screening of any outsourcing against the criteria of the outsourcing policy;
- Undertaking Due Diligence with regard to the Provider;
- Providing regular performance report to the BoM when outsourcing Key Functions or other CIFS;
- Monitoring the outsourcing and making amendments to the outsourcing where necessary;
- Taking the appropriate measures in case of any adverse event or termination of the outsourcing; and
- In case of termination, assessing together with the local function whether any claims against the Provider may/shall be asserted.

The Outsourcing Function is in charge of storing, keeping and updating all outsourcing agreements as well as monitoring the implementation of the outsourcing process and provide support to the designated Business owner in performing his tasks.

EH Re AG CFAO and EH Re AG Compliance Officer ensure the correct implementation of outsourcing policy, supports the Business Owner on the qualification of the outsourcing and drafts/reviews the outsourcing agreement, and notify any conflict with local law to group Legal or supervisory authority.

The Risk & Capital Management monitors and oversees the management of the outsourcing risk as well as supports the Business Owner in the risk assessment and Due Diligence process.

B.7.2. Implementation of the outsourcing policy

B.7.2.1. Outsourcing processes

An outsourced function or Service qualifies as CIFS if it is essential to the operation of EH Ré SA as it would be unable to deliver its services to its customers without the outsourced Function or Service.

The outsourcing process consists of four major phases:

- **The decision phase** which involves the business plan and risk assessment as to whether the function or Service is outsourced. It consists in the main following steps:
    - Assessing whether the outsourced function/Service is Key Function or a CIFS;
    - Establishing a Business Plan which outline the rationale for as well as the expected economics and operational benefits of the envisaged outsourcing;

    - Conducting a risk assessment, i.e. identifying, analysing and rating in particular the operational, financial, strategic, reputational and any concentration risks associated with the outsourcing, as well as defining strategies to mitigate or manage these risks.

- **The implementation phase** which regards the provider selection and the setup of a written outsourcing agreement:
    - The Provider selection consists in the conduction of Due Diligence in order to ensure that he has the ability to perform the functions or services to be outsourced;
    - The written outsourcing agreement provides in particular a description of services and responsibilities, Provider's obligation on confidentiality and cooperation, termination rights and notice periods;
    - In case of outsourcing CIFS, a contingency plan which describe potential emergency event and how to remediate is required. The outsourcing also has to be notified to the CAA;
    - In case of group internal outsourcing, the process is lighter with less detailed Due Diligence and possibility to rely on past (up to one year) Due Diligence with a systematic assessment of potential conflict of interests.
- **The operational phase** consists in maintaining a process to regularly monitor the Provider's performance, financial stability and compliance with the outsourcing agreement as well as the effectiveness of its key control inventory:
    - EH Ré SA should take appropriate actions if the Provider's performance or risk management is materially deficient;
    - In case of outsourcing CIFS, a report on Provider's performance is sent to the BoM on an annual basis.
- **The exit phase** might be included in case EH Ré SA decides to terminate the outsourcing and thus needs to ensure it has the capacities to insource the outsourced function or service to another Provider before the termination of the current outsourcing agreement.

B.7.3. Outsourcing of critical or important operational functions

The following table relates CIFS and Key Functions that have been outsourced, there is no change compared to 2017.

Figure 9: **EH Ré SA CIFS/Key Functions outsourced**

Category	Internal or External Outsourcing	Outsourced process / function	Provider's country
CIFS	Internal	Accounting / Reporting	Switzerland
Key Function	External	Local Lux Accounting and tax	Luxembourg

B.8. Any other information

EH Ré SA does not have any other information to disclose.

C. Risk profile

C.1. Underwriting Risk

C.1.1. Description of the measures used

EH Ré SA's Risk Management team measures and assesses its risks using the SM. In particular it applied for the measure of Underwriting Risk.

C.1.2. Description of the risk exposure

EH Ré SA's Non-Life Underwriting Risk is composed of:

- **Premiums Risk**: the risk of loss because of an unexpected high loss volume resulting in an insufficient coverage of premiums
- **Reserve Risk**: the risk of loss resulting from deviations between payments for incurred losses that have not yet been definitively settled and the reserves set up to cover these payments, or the use of an insufficient basis for the calculation of reserves.
- **Catastrophe Risk**: the risk of loss resulting from significant uncertainty of pricing and provisioning assumptions related to extreme or exceptional events

The RC calculated for the Underwriting Risk amounts to 87M€, decreasing by 9% compared to 2017 linked to a 22% decrease of premium risk (Premium Risk Retained).

C.1.3. Risk concentration

Please refer to section C.3.3 for a description of the material risk concentrations to which EH Ré SA is exposed.

C.1.4. Risk mitigation

As mentioned in section C.3.4, EH Ré SA reinsurance structure allows for an efficient mitigation of Underwriting Risk.

C.2. Market Risk

C.2.1. Description of the measures used

EH Ré SA's Risk Management team measures and assesses its risks using the SM. In particular it applied for the measure of Market Risk.

C.2.2. Description of the risk exposure

Within EH Ré SA, Market Risk is composed of the following risks:

- **Interest Rate Risk**: the risk of loss which can arise due to changes in market interest rates e.g. if future interest income is above or below a fixed or guaranteed interest rate applicable to reserves;
- **Equity Risk**: the risk of loss based on market changes in the value of an equity or a participation portfolio;
- **Equity Volatility Risk**: it measures an adverse move in implied volatilities of equity options;
- **Property (Real Estate) Risk**: the risk of loss arising from changes in the market price for property investments;
- **Spread Risk**: the risk due to exposure to some spread. It often arises with a long-short position or with derivatives;
- **Foreign Exchange, Currency Risk**: the risk of loss arising from changes in foreign currency exchange rates;
- **Market Risk concentrations**.

The standalone Market RC amounts to 28M€, increasing by 5.3M€ (23%) compared to 2017. As required by the Directive, the calculations of these sub-risks are mainly based on the assets market values and market conditions. The evolution of the Market Risk is detailed as follows:

a. Spread Risk

The Spread Risk increase is linked to the evolution of the fixed income portfolio and is proportionally higher than the evolution of the Interest Rate (IR) risk due to the higher credit spread risk carried by corporate bonds.

b. Interest Rate (IR) Risk

The IR risk increases due to an increase of the bonds portfolio (20M€ on corporate bonds and 15M€ on government bonds in the last quarter).

c. Other Risks:

The other risks are stable and not significant.

C.2.3. Description of assets investment

EH Ré SA actively manages its investment portfolio and is actively taking investment risks in a controlled and limited manner. This is based on the firm belief that by taking risks on the investment side additional value can be generated on a mid to long-term basis, i.e. that the additional return on investments overcompensates the additional cost of capital in the mid- to long-run.

This approach results in a mid to long-term focused investment policy with an emphasis on SAA and the goal of realizing the long-term risk premium of asset classes.

Tactical Asset Allocation (TAA) is used on a limited basis as an enhancement to the SAA in order to profit from market opportunities. The investment activities follow the general principles of a congruent ALM with a sufficient duration and currency matching within prescribed limits. All technical reserves are supported by investments made by Investment and Treasury Group (ITG) in respect with local regulation.

EH Ré SA's investment strategy aims for a positive global mid- to long-term (3-5 years) risk adjusted after tax investment return considering:

- Local as well as group-wide external and internal regulations, and policies;
- Risk-bearing capacity and risk tolerance of EH Ré SA's and its shareholders;
- General principles of a congruent ALM;
- Return objectives, expectations, and risk tolerance of the shareholders; and
- Expectations of external parties (e.g. regulators, rating agencies, clients).

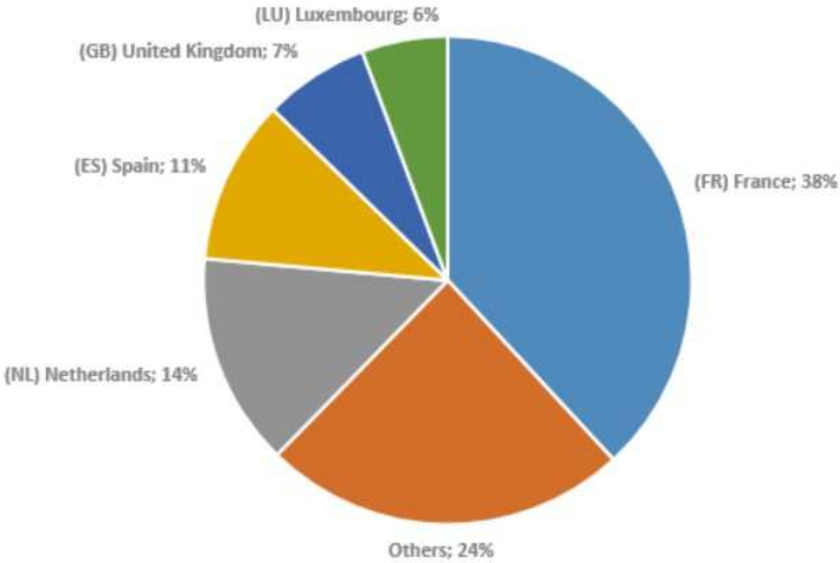
The following principles apply:

- Prudent Person Principle: EH Ré SA only invests in assets and instruments whose risks can be properly measured, managed and controlled, taking into account the assessment of its overall solvency needs. In particular, assets held to cover the TP are also invested in a manner appropriate to the nature and duration of the insurance and reinsurance liabilities;
- Focus on liquid, high quality, low risk assets: The predominant portion of the portfolio is invested in cash and liquid, tradable, high quality securities, mainly: developed market treasuries and government related bonds, covered bonds. Further diversification in credit investments (e.g. corporate bonds, asset backed securities /mortgage backed securities, emerging market bonds) are allowed within pre-defined risk limits. Main technical reserves are supported by investments in cash and fixed income securities. Parts of the reserves and the economic net asset value might be invested in equity and real estate within pre-defined risk limits;
- Asset Liability Management: The duration differences between assets and liabilities and the net foreign currency exposure are regularly monitored and appropriate actions and hedges are executed;
- Diversification: Diversification is a central part of the investment policy and is to be pursued with regards to the SAA, the geographical implementation, the number of counterparties;
- Avoiding investments that threaten EH Ré SA's reputation.

C.2.4. Risk concentration

EH Ré SA diversifies its risks across geographical area and does not over rely on one specific country or economy.

Figure 10: **Asset geographical allocation**



EH Ré SA diversifies its portfolio across issuers and does not rely on one specific issuer whatever its credit quality. Thus, the most significant issuer represents 8% of the total assets, with the remaining part of the portfolio fully diversified.

C.2.5. Risk mitigation

Market Risk mitigation is performed by applying investment strategies to mitigate high volatility assets as well as a regular monitoring of the investments. These strategies are applied through the quantitative financial limits which are one of the components of the Risk Appetite defined in the Risk Strategy. They include different kinds of limits; the following table summarizes the level of the sensitivity limits in place:

Figure 11: **Financial limits at EH Ré SA level**

Financial limits applied at EH Ré SA level	2018 Actual value	2018 Limit
Duration gap	3.3	3.6

The assessment of three limits was required for the IM at EH Ré SA level: Credit VaR, Financial VaR and Interest Rate. With EH Ré SA now using the SM for the calculation of its regulatory capital requirements, the only limit evaluated is the Duration gap. The SAA is a target asset allocation set yearly by the FiCo in order to ensure a balance between the assets yields and the related RC. Quarterly, the FiCo reviews the SAA so it reflects the Risk Appetite defined within EH SA. The FiCo also discusses every decision concerning investment strategy. This way EH Ré SA can effectively monitor investment risks.

As of 2018, no breach has been identified over the SAA.

C.2.6. Risk sensitivity

EH Ré SA has designed and implemented a firm-wide program covering stress testing and scenario analysis.

For stress tests, EH Ré SA usually follows standard shocks in line with European Insurance and Occupational Pensions Authority (EIOPA) recommendations. For scenario analysis, a dedicated process is run by an EH Group panel made of risk, business and economic experts who meet on an annual basis to identify up to 5 most relevant stress scenarios for the year to come. These scenarios are subsequently proposed to EH RiCo for review and selection before execution across EH Ré SA.

It must be noted that the scenarios described in the following sections are enterprise-wide scenarios and not specifically designed for EH Ré SA on a standalone basis. As a result, the assumptions listed are those directly applied to insurance entities ceding to EH Ré SA. Non-market assumptions indirectly affect EH Ré SA through the cession from EH insurance entities while market assumptions directly impact EH Ré SA risk profile.

All tests and scenarios are further detailed in the following sections.

C.2.6.1. Standard financial stress scenarios

EH Ré SA solvency position is challenged on an annual basis against a set of financial stress tests recommended by Allianz and in line with EIOPA recommendations. In 2018, the following scenarios were analysed:

- Equity drop: -30% in market values of all equity investments;
- Interest rates up: +100 bps in interest rate;
- Interest rates down: -100 bps in interest rate;
- Credit spread: +100 bps in credit spread on corporate and asset-backed security bonds;
- Combined scenario: -30% in market values of all equity investments and -100 bps interest rate.

None of these scenarios causes a major decrease of SII ratios.

C.2.6.2. Scenario analysis

As introduced above, EH Group panel has identified and proposed to EH Ré SA RiCo a set of relevant 'business' scenarios for analysis. The following scenarios have been approved by EH RiCo for analysis:

- 2008/2009 financial crisis: The scenario consists of replicating the macroeconomic and financial market shocks observed on the EH Ré SA risk profile during the financial crisis over 2008 and 2009. This scenario is designed to be a recurrent scenario as it serves as a benchmark given its severity level since 1929.
- Diesel gate: This scenario is designed to reflect the potential disruption in the diesel automotive industry due to the inability of the sector to adapt to electric cars' demand and competition.
- US-China Trade War: This scenario is designed to capture the potential effects of an extended trade war between US and China.

Under such scenarios, EH Ré SA's solvency position at the end of 2018 would remain well above regulatory requirements.

Only the 2008/2009 financial crisis would make the SCR drop below the action barrier set by the BoM for capital management purposes. As a consequence, EH Ré SA would need to take corrective actions in this situation.

C.3. Counterparty default Risk

C.3.1. Description of the measures used

EH Ré SA's Risk Management team measures and assesses its risks using the SM. In particular it applied for the measure of Counterparty default Risk.

C.3.2. Description of the risk exposure

Within EH Ré SA, Counterparty default Risk is defined as the risk of loss due to default of the counterparty within the context of transactions e.g. derivative, reinsurance, loans etc.

The total Counterparty default RC decreased by -5.2M€ between 2017 and 2018 due to a 25% decrease of type1 exposure (mostly reinsurance receivables).

C.3.3. Risk concentration

For EH Ré SA, two kinds of monitoring have to be considered:

- Monitoring of the exposures at Group level;
- Monitoring of the reinsurance exposure limits at EH Ré SA level.

The monitoring processes and conclusions are summarized hereafter.

C.3.3.1. Monitoring of exposure at Group level

At EH Group level, several processes are in place to monitor the portfolio quality and risk:

- **Large risks management process:** the methodology is to identify the largest and most sensitive buyers and ensure there is a granular review of each risk. A standard template has been defined which presents the key metrics and proprietary analysis maximising the expertise and local knowledge from each country;
- **Concentration risk management processes:** the evolution of the total exposure is monitored through three different dimensions to avoid concentration risk: the grade, the country and the trade sector. The portfolio is strongly diversified on each of these dimensions.

C.3.3.2. Monitoring of reinsurance exposures at EH Ré SA level

EH Re has its own set of limits, depending on country grades, buyers rating and Legal Entities (LEs)/Regions. Based on the information reported by the reinsured LEs/Regions, EH Ré SA monitors its reinsurance limits on a quarterly basis. As of Q4 2018, the exposures limits are under control:

- Individual buyer limits: no exposure usage > 100%;
- Global buyer limit: 3.01% of global usage (slightly increased compared to Q4 2017).

C.3.4. Risk mitigation

EH Ré SA reinsures most of its business to EH Re AG using both proportional and non-proportional reinsurance treaties. There has been no change in the reinsurance structure since last year.

EH Ré SA does not use any Special Purpose Vehicles (SPVs) in addition to its reinsurance structure to mitigate the risks it is facing.

To form its opinion on the effectiveness of the reinsurance arrangements, the EH Group Actuarial Function participates on a regular basis to the reinsurance committee meetings organized by EH Re AG on behalf of EH Group where the profitability of assumed business and potential changes on the internal and external reinsurance cessions are discussed.

C.4. Liquidity Risk

C.4.1. Description of the measures used

The Liquidity Risk is the risk that requirements from current or future payment obligations cannot be met. This comprises insufficient liquidity resources to meet payment obligations under current (base case scenario) as well as potential future conditions (stress scenarios).

Liquidity Risk management is a component of EH Ré SA's Risk Appetite and is a core part of the financial planning, taking into account the cash flow schedule as well as capital allocation process.

In accordance with the Liquidity Risk Management Standard, an analysis has been performed to identify accurately the resources and needs of liquidity and to simulate the evolution of EH Ré SA's liquidity ratio on different time horizons and in different conditions.

In this approach, the liquidity ratio is considered as being the fraction of needs of liquidity over resources of liquidity:

- Liquidity resources mainly come from premiums, reinsurance receivables and investment inflow;
- Liquidity needs mainly include policyholder benefits and claims and related expenses, reinsurance payables, operating expenses, dividends and planned purchase or re-purchase of assets.

According to the Risk Appetite of EH Ré SA, the liquidity ratio is managed according to the following thresholds:

- Ratio > 100%: Red (action level);
- 100% > Ratio > 80%: Amber (alert level);
- Ratio < 80%: Green;

In case of breaching, countermeasure actions can be put in place such as asset sales, a diminution of the dividends and a stop in assets purchasing.

C.4.2. Description of the risk exposure

Within EH Ré SA, liquidity risk comprises:

- Insufficient liquidity resources to meet payment obligations under current as well as potential future conditions (stress scenarios);
- Finding risk, which is the risk that EH Ré SA is not able to obtain sufficient funding in due time and on favourable terms.

The liquidity risk can arise from:

- External events such as disruptions in the markets for certain financial instruments;
- Internal events such as the loss of sufficient creditworthiness.

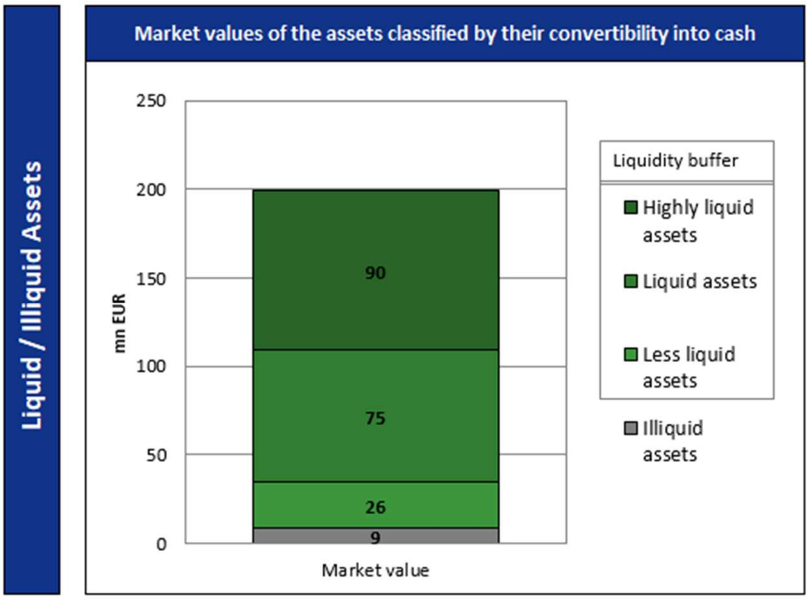
The Liquidity Risk management framework is built on a regular Liquidity Risk assessment and supervision, made by regular monitoring of liquidity positions.

To this end, EH Ré SA monitors quarterly the market values of its assets and their classification in terms of liquidity.

This monitoring especially aims at gauging the liquid assets that EH Ré SA could sell in a short period of time in case the liquidity ratio raises over 100%. Such asset sales are part of the “countermeasures” considered in the quarterly liquidity analysis.

The following table shows that, as of Q4 2018, only 5% of EH Ré SA’s assets are illiquid while 95% are in the liquidity buffer.

Figure 12: **Classification of assets per type of liquidity**



The base case is the projection of the liquidity resources and needs under current market conditions over different time horizons. The base case scenario liquidity analysis has been performed in Q4 2018, over different time horizons of 2019.

As for Q4 2017, the liquidity ratio calculated in Q4 2018 for the different time horizons analysed remains under 100% but does not fall under the 80% threshold for all of them.

EH Ré SA Liquidity KPIs are above the alert threshold of 80%. As EH Ré SA retention is 10%, the percentage between the needs (cash flow out) and the sources (cash flow in) is structurally above 80%. Liquidity for EH Ré SA is not a real risk as all the flows are internal inside EH.

C.4.3. Risk concentration

EH Ré SA is not exposed to any material risk concentration regarding Liquidity Risk.

C.4.4. Risk mitigation

EH Ré SA Liquidity Risk from its insurance business can be mitigated by adjusting EH Ré SA reinsurance structure towards EH Re AG to reduce any severe impact from premium and claim stress situations.

C.4.5. Expected profit included in future premiums

EH Ré SA's expected profits included in future premiums (EPIFP) amount to 56.2M€.

C.4.6. Risk sensitivity

EH Ré SA identified several liquidity stress scenarios and chose to perform the one which appeared to be the most relevant for 2018: a deterioration of the market conditions leading to an economic crisis, a recession event which implies an increase of the claim frequency for credit insurers.

Thus, a combination of a market stress scenario and a recession scenario (Reserve Risk and Credit Risk) was simulated.

After application of the countermeasures, no breach are stated with the liquidity ratio calculated in Q4 2018 for different 2019 time horizons, even under these stressed conditions.

C.5. Operational Risk

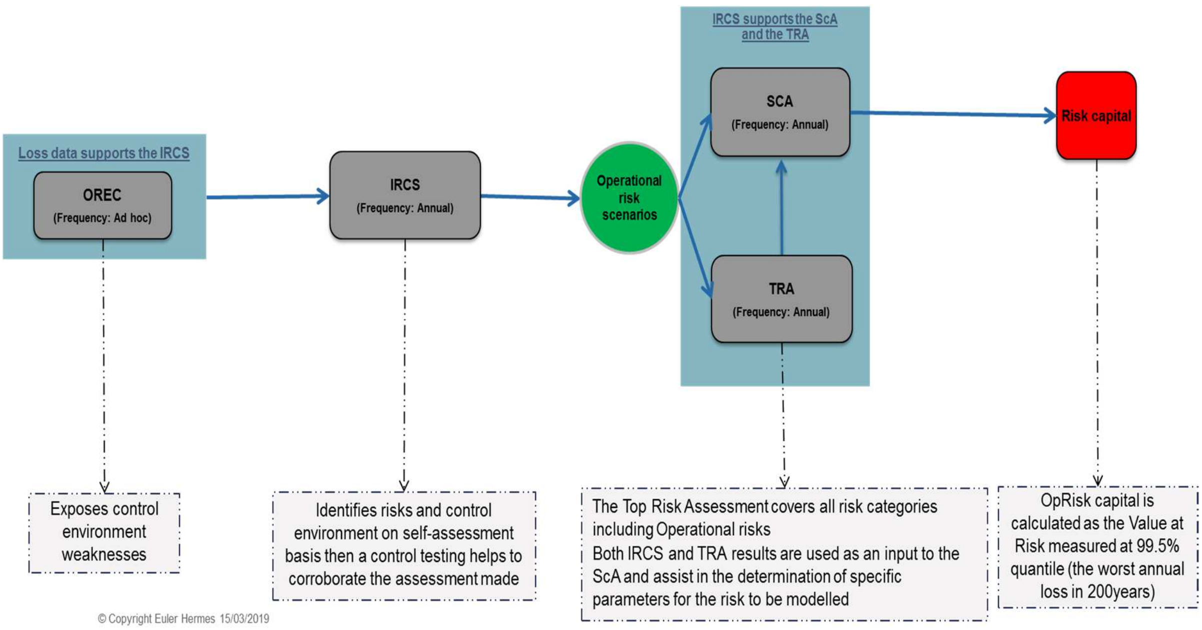
C.5.1. Description of the measures used

The operational risk management framework establishes the core approach by which operational risks are managed. Specifically, the management framework aims to:

- Generate awareness of the operational risks;
- Learn from past operational errors and events that either did or could have resulted in an operational loss;
- Reduce operational losses and other indirect consequences, including reputational damage and missed opportunities, resulting from the occurrence of operational risk events and;

  Enable management to conclude on the effectiveness of the internal control system (i.e. the portion related to operational risk management).

Figure 13: **Operational Risk management overview**



In accordance with EH risk policy framework, EH Ré SA has implemented comprehensive ORM processes, aiming at keeping the Operational Risks under control.

a. The Integrated Risk and Control System (IRCS)

The IRCS has been implemented within EH Group in 2017 under the global coordination of the R&CM department, aiming at providing a harmonized internal control framework.

The IRCS is a risk management process by which EH Ré SA ensures, through performance of a qualitative based analysis, that significant operational risks are identified, assessed and prioritized for improved management and ensured that the controls underlying their management are effective.

This “in-depth” assessment is performed on a yearly basis and reviewed on a quarterly basis.

b. The Operational Risk Event Capture (OREC)

Information regarding actual operational risk related losses, gains and near-misses that have occurred is recorded via the OREC process. This information is used to support and corroborate the identification and assessment of risks during the IRCS process, as well as the assessment of control effectiveness.

c. The Top Risk Assessment Process (TRA)

This is a structured and systematic process implemented at EH Ré SA level whose objective is to identify and remediate significant threats to financial results, reputation, operational viability and the delivery of key strategic objectives, regardless of whether they can be quantified or not.

The TRA process is based on a quarterly review and monitoring, with a full run exercise once per year.

Its scope covers all risk categories defined in the Group risk policy (i.e. Market, Credit, Underwriting, Business, Operational, Reputational, Liquidity and Strategic Risk) as well as concentration and emerging risks. For each of the top risks, respective EH Ré SA’s BoM members are defined as risk owners and define a target score.

For the top risks identified, the “probability” and “impact” are assessed and form an “actual score”, compared to a “target score”.

The “impact” is the highest score between the economic impact and the reputational impact, if any.

The “target scores” of all top risks are part of the overall Risk Appetite, which is formally approved by the BoD. If the actual risk score is higher than the target risk score, the risk owner is responsible for ensuring that a documented risk mitigation plan is in place.

d. Scenario Analysis (ScA)

Each year, “Scenario Analysis” workshops are organized with EH Ré SA experts in order to set the IM parameters to be used to steer the Operational risk profile.

IRCS, OREC and TRA results are used as an input of the Risk Heat maps and assist in the determination of specific parameters for the level 2 Risk Categories to be modelled.

C.5.2. Description of the risk exposure

EH Ré SA’s definition of Operational Risk, as well as several sub-categories of this risk:

- **Operational Risk:** the risk of loss resulting from inadequacies or failures in processes or controls due to technical resources, people, organization or external factors;
- **Legal Risk:** the risk of loss caused by non-compliance with existing or new legislation or supervisory regulations, disadvantageous changes to existing laws or supervisory regulations, as well as the risk of a loss resulting from material litigation or regulatory proceedings, in particular

through disadvantageous interpretations of laws by courts. Furthermore, Legal Risk includes losses due to ambiguity of laws or unfavourable contract clauses. Legal Risk does not constitute a separate risk category, as it is captured within the Operational Risk;

- **Financial Misstatement Risk:** The risk of loss caused by issuing external financial reports which are not fairly stated in all material respects. Financial Misstatement Risk is partially covered within the Operational Risk.

According to the standard formula, EH Ré SA's standalone Operational RC decreased by 4% from Q4 2017 to Q4 2018 and amounts to 13.6M€.

C.5.3. Risk concentration

EH Ré SA is not exposed to any material risk concentration regarding Operational Risk.

C.5.4. Risk mitigation

EH Ré SA does not enter into specific risk mitigation techniques for Operational Risk.

C.6. Other material risks

EH Ré SA is not concerned by any other material risks.

C.7. Any other information

EH Ré SA does not have any other information regarding the risks being disclosed in the above.

D. Valuation for solvency purposes

D.1. Assets

D.1.1. Valuation of assets

The following table summarizes the amounts for EH Ré SA assets, classified by asset classes as disclosed in the Quantitative Reporting Templates (QRT), for both MVBS and LuxGAAP valuations.

Figure 14: **Asset (MVBS vs LuxGAAP)**

In K€	MVBS	LuxGAAP
Goodwill		
Deferred acquisition costs [(1)]		24,668
Intangible assets		
Deferred tax assets	1	0
Pension benefit surplus		
Property, plant & equipment held for own use		
Investments (other than assets held for index-linked and unit-linked contracts)	197,604	180,475
Property (other than for own use)		
Holdings in related undertakings, including participations		
Equities		
Equities – listed		
Equities – unlisted		
Bonds	182,603	180,475
Government Bonds	58,837	57,582
Corporate Bonds	116,740	115,867
Structured notes		
Collateralized securities	7,026	7,026
Deposits other than cash equivalents [(2)]	15,001	0
Loans and mortgages	1	0
Reinsurance recoverable from: [(3)]	360,512	514,557
Non-life and health similar to non-life	360,512	514,557
Non-life excluding health	360,512	514,557
Deposits to cedants	441	441
Insurance and intermediaries receivables	108,394	79,662
Reinsurance receivables	1,681	0
Receivables (trade, not insurance) [(4)]	38	1,155
Own shares (held directly)		0
Amounts due in respect of own fund items or initial fund called up but not yet paid in [(5)]		44,833
Cash and cash equivalents	1,876	1,876
Any other assets, not elsewhere shown		15,001
Total assets	**670,548**	**855,641**

There has not been any change to the recognition and valuation of material classes of assets during the year 2018.

Hereafter is an overview of valuation and recognition bases applied, this only includes the positions with a significant variation between MVBS and LuxGAAP values.

Asset account	MVBS valuation	LuxGAAP valuation	Differences
Deferred acquisition costs [1]	Deferred Acquisition Costs (DAC) are considered to be included in the calculation of the Best Estimate (BE) of the TP.	DAC are reserved on a premium basis and then adjusted based on the Loss Ratios. They are recognized prorata temporis.	The asset is higher by 24.7M€ compared to MVBS due to the recognition of DAC.
Deposits other than cash equivalents [2]	Deposits other than cash equivalent are evaluated on the basis of the IAS 39 principle.	In LuxGAAP, the amount is reclassified as "Any other assets, not elsewhere shown".	There is no difference in the overall amount.
Reinsurance recoverable from non-life excluding Health [3]	The calculation of reinsurance recoverable leads either to the recognition of reinsurance recoverable calculated as a whole or the BE for the reinsurance recoverable. No Risk Margin (RM) is reported in the section of the reinsurance recoverable as the RM recognized within the TP is already net of reinsurance. However, a Counterparty Default Adjustment (CDA) has to be calculated. The BE of TP has to be calculated gross.	In LuxGAAP, the amount recognised as provision is the BE of the amount required to settle the obligation at the reporting date. This provision does not exceed in amounts the sum which are necessary.	In LuxGAAP, the asset is higher by 154M€ compared to MVBS because there is no discounting in LuxGAAP.
Receivables (trade, not insurance) [4]	Receivables (trade, not insurance) are recognized at amortized cost.	In LuxGAAP, receivables (trade, not insurance) are valuated at the lowest value between the nominal value and the probable realizable value. The amount recognized is adjusted if the recovery of the receivables is partly or fully compromised.	In LuxGAAP, the asset is higher by 1.1M€ compared to MVBS because it includes the interests on investment and the withholding tax.
Amounts due in respect of own fund items or initial fund called up but not yet paid in [5]	This line item is valuated on the basis of IFRS standard.		In LuxGAAP, the asset is higher by 44.8M€ compared to MVBS because it was netted in MVBS and not in LuxGAAP.

D.1.2. Material financial assets

The default valuation method for assets and liabilities (other than TP) under SII is the use of quoted market prices in active markets for the same assets or liabilities.

The use of quoted market prices is based on the criteria for active markets as defined in IFRS.

Where the criteria for active markets are not satisfied, EH Ré SA uses alternative valuation methods.

When using alternative valuation methods, EH Ré SA relies as little as possible on entity-specific inputs and makes maximum use of relevant market inputs. If relevant observable inputs are not available, EH Ré SA uses unobservable inputs reflecting the assumptions that market participants would use when pricing the asset or liability, including assumptions about risk.

The valuation technique used is consistent with one or more of the following approaches:

- Market approach: this approach uses prices and other relevant information generated by market transactions involving identical or similar assets, liabilities or group of assets and liabilities;
- Income approach: this approach converts future amounts, such as cash flows or income or expenses, to a single current amount;
- Cost approach or current replacement: the cost approach reflects the amount that would be required currently to replace the service capacity of an asset.

The following table summarizes the different valuation methods used classified by class of assets. More detailed information on valuation of assets using alternative valuation methods is provided in section D.4 of this report.

Figure 15: **Valuation methods by asset classes**

MVBS asset	Valuation method	MVBS value (in K€)
Cash and cash equivalents	Alternative valuation methods	882
Corporate Bonds	Quoted market price in active markets for the same assets	116,764
Corporate Bonds	Alternative valuation methods	-24
Collateralised securities	Alternative valuation methods	7,026
Deposits to cedants	Alternative valuation methods	441
Deposits other than cash equivalents	Alternative valuation methods	15,002
Loans and mortgages	Alternative valuation methods	1
Government Bonds	Quoted market price in active markets for the same assets	58,815
Government Bonds	Alternative valuation methods	22

D.2. Technical Provisions

D.2.1. Valuation of Technical Provisions for solvency purposes

The table below summarizes the TP amounts by SII LoB.

Figure 16: **Technical provisions**

In K€	Credit and suretyship insurance (MVBS)	Credit and suretyship insurance (LuxGAAP)
Total Best Estimate - gross	409,075	676,104
Risk Margin	7,713	0
Gross Technical Provisions	416,788	676,104
Total Best Estimate - ceded	-360,512	-514,557
Net Technical Provisions	56,276	161,547

D.2.1.1. Basis

The value of the TP corresponds to the current amount required to transfer all insurance obligations immediately to another insurance entity. TP consist of the claims provision, premium provision and risk margin, together they constitute the Best Estimate Liabilities (BEL).

BELs are defined as the weighted average of future cash flows, taking into account the time value of money (the present value of future cash flows), determined from the relevant risk-free interest rate curve published by EIOPA, with the application of the correction for volatility (risk free). Due to the time required to dispose of the curve published by EIOPA, the Allianz Group derives the discount interest rate curve, which may differ slightly from that published by EIOPA.

The BE is calculated gross, without deduction of claims arising from reinsurance contracts. Gross and Ceded amounts are calculated separately.

The projected cash flows used in the calculation of the BELs include all the cash inflows and outflows required to meet the insurance and reinsurance obligations in the existing portfolio (or run-off) whose projection horizon must cover the whole life.

The ceded BELs are estimated by netting the gross BELs. The ceded BELs are adjusted by the CDA.

D.2.1.2. Methods and assumptions

The calculation of the BEL is based on up-to-date and credible information, realistic assumptions and is performed using actuarial and statistical methods relevant to each LoB.

Each provision is calculated by LoB, gross and ceded. Regardless of the LoB, the approach taken is the same, and the methods and assumptions used are based on the actual exposure and experience of that LoB.
BEs are based on IFRS GAAP reserves (Loss Reserves, Premium Reserves and Other Reserves), loss and expenses ratios.

D.2.2. Level of uncertainty

D.2.2.1. Stochastic reserving

Stochastic simulations ("Mack-Bootstrapping") are conducted on the IFRS claims reserves for all LoBs in order to provide reserve distributions around the quantitative BE reserves.

D.2.2.2. Sensitivity Studies on Technical Provisions

The premium reserves reflect the present value of all future outflows less inflows from future events post the valuation date that will be incurred under the insurer's existing policies that have not yet expired.

Hence, future outflows (i.e. future claims and administrative costs) and future inflows (i.e. future premiums) are taken into account in the premium reserves estimation. The future outflows are estimated via an adjusted combined ratio. As this parameter is a key driver of the premium reserves level, the sensitivity of (undiscounted) premium provisions on changing combined ratios has been tested.

D.2.3. Material changes in calculation assumptions for Technical Provisions

In 2018, the following operational, legal and model changes have been implemented, impacting the calculation of the TP: after EH Ré SA has become a “standard-model entity” in Q3 2018 the RM calculation had to be revised accordingly, leading to significantly higher values. Within the old IM approach the RM would have amounted to 3.1M€.

D.2.4. Differences with Technical Provisions in financial statements

In MVBS, gross TP amount as of Q4 2018 was at 417M€. In LuxGAAP the amount was at 676M€. This difference is explained by the fact that in MVBS, the position includes claims provision, premium provision and the RM, all according to the actuarial calculations whereas in LuxGAAP, it includes Unearned Premium Reserve (UPR), claims reserves, Bonus and rebates, Salvages and the equalization reserve.

D.2.5. Matching Adjustment

EH Ré SA does not apply a matching adjustment.

D.2.6. Volatility Adjustment

In accordance with the technical guidance provided by EIOPA and Allianz, the discount effect is currently calculated by taking into account the Volatility Adjustment (VA) inside the risk-free SWAP (yield) curves. We have performed a sensitivity study where we have applied only the EUR SWAP curve with and without VA to the cash flows, i.e. omitting the impact of different settlement currencies. The impact of the VA is negligible.

D.2.7. Transitional risk-free interest rate-term structure

EH Ré SA does not apply the transitional risk-free interest rate-term structure referred to in Article 308c of Directive 2009/138/EC.

D.2.8. Transitional deduction

EH Ré SA does not apply the transitional deduction referred to in Article 308d of Directive 2009/138/EC.

D.2.9. Recoverable from mitigation techniques

In 2018, EH Ré SA had reinsurance recoverable of nearly 360M€. The recoverable are coming from non-life excluding health. Of these recoverable, 94.5% come from claims provisions, with the remaining due to premium provisions.

There was no recoverable from SPVs.

D.3. Other liabilities

D.3.1. Valuation of other liabilities

The following table summarizes the amounts for EH Ré SA other liabilities, classified by other liabilities classes as disclosed in the QRT, for both MVBS and LuxGAAP valuations.

Figure 17: **Other liabilities (MVBS vs LuxGAAP)**

In K€	MVBS	LuxGAAP
Other Technical Provisions		
Contingent liabilities		
Provisions other than Technical Provisions		
Pension benefit obligations		
Deposits from reinsurers	441	441
Deferred tax liabilities (1)	28,408	0
Derivatives		
Debts owed to credit institutions		
Financial liabilities other than debts owed to credit institutions		
Insurance & intermediaries payables (2)	16,629	18,925
Reinsurance payables (3)	76,995	48,751
Payables (trade, not insurance)	358	0
Subordinated liabilities	33,351	33,100
Subordinated liabilities not in basic own funds		
Subordinated liabilities in basic own funds	33,351	33,100
Any other liabilities, not elsewhere shown (4)	456	24,290
Total other liabilities	**189,990**	**125,507**

There has not been any change to the recognition and valuation of material classes of assets during the year 2018.

Hereafter is an overview of valuation and recognition bases applied, this only includes the positions with a significant variation between MVBS and LuxGAAP values.

Asset account	MVBS valuation	LuxGAAP valuation	Differences
Deferred Tax Liabilities (DTL) (1)	Deferred taxes are evaluated on the basis of the IAS 12 principles.	In LuxGAAP, DTL are not recognized.	On 31 December 2018, the total deferred tax liabilities equalled 28.9M€ (MVBS value). DTL are mainly due to temporary differences due to the claims equalization reserve. In LuxGAAP, the liability is lower by 28.4M€ compared to MVBS because deferred tax are not recognized in LuxGAAP.
Insurance & intermediaries payables (2)	In MVBS, payables are recognized at the amounts actually due on repayment (i.e. their settlement amount) and only include amounts past due for payment.	In LuxGAAP, insurance & intermediaries payables are recognized at their repayment value.	In LuxGAAP, the liability is higher by 2.3M€ compared to MVBS. The difference comes from the reclassification done on the LuxGAAP accounts. In LuxGAAP, the position is analyzed by Trading Partner considering only the negative amounts. This leads to the total amounts of 19M€.

Reinsurance payables [3]	In MVBS, payables are recognized at the amounts actually due on repayment (i.e. their settlement amount) and only include amounts past due for payment.	In LuxGAAP, reinsurance payables are recognized at their repayment value.	In LuxGAAP, the liability is lower by 28.2M€ compared to MVBS because in MVBS, the position includes reinsurance liabilities and the actuarial adjustment whereas only reinsurance liabilities are considered in LuxGAAP.
Any other liabilities, not elsewhere shown [4]	*"Any other liabilities, not elsewhere shown"* include any liabilities not included in the other balance sheet items and, thus, represent a miscellaneous category.	In LuxGAAP, the following positions are included: DAC retroceded, Other taxes, Other payables and the loan interests.	In LuxGAAP, the liability is higher by 23.8M€ because the MVB position only includes Other payables.

D.3.2. Employee benefits

EH Ré SA does not have any employee and thus does not recognize any employee benefit.

D.4. Alternative methods for valuation

For every class of assets, alternative valuation methods are used if the asset class price is not quoted on an active market for the same assets. The following table summarizes the asset classes that are valuated using alternative valuation methods.

Figure 18: **Asset classes measured through alternative valuation methods**

MVBS asset	Specificities when alternative valuation method	MVBS value (in K€)
Cash and cash equivalents	Valuated at purchase price	1,876
Collateralised securities	Valuated at purchase price	7,026
Deposits to cedants	Valuated at purchase price	441
Deposits other than cash equivalents	Valuated at purchase price	15,001
Loans and mortgages	Valuated at purchase price	1
	Total alternative valuation methods	**24,345**

D.5. Any other information

There is no other information to disclose with regards to valuation for solvency purposes.

E. Capital Management

E.1. Own funds

E.1.1. Information on the own funds

E.1.1.1. Management of the own funds

Capital poses the central resource for EH Ré SA to support the multiple activities. It ties to EH Ré SA Risk Strategy which defines the relevant Risk Appetite with regard to the risk bearing capacity including EH Ré SA's capital and solvency targets as well as risk limits, thus implementing the EH Ré SA's business strategy. Capital management describes the set of activities undertaken by EH Ré SA to ensure its adequate capitalization. The following principles are applied:

- Capital management protects the Group's capital base and supports effective capital management on Group level in line with the Group risk policy. It allocates capital to the underlying risk drivers under the budget limited by the Risk Strategy and with the target of optimizing the expected return under this constraint. Risk considerations and capital needs are integrated into management and decision-making processes. This is done by attribution of risk and allocation of capital to the various segments, LoBs and investments.
- EH Ré SA facilitates the fungibility of capital from a group-wide perspective by pooling/upstreaming available excess capital to EH Group while at the same time ensuring a sufficient level of capital is held at EH Ré SA level. This includes a consideration of a buffer above the minimum capital ratio to take into account potential market volatility.
- EH Ré SA ensures to comply with regulatory MCR.
- Capital is centrally managed in accordance with Group-wide rules and allocated to the benefit of the Group and its shareholders.
- EH Ré SA capitalization is managed using adequate buffers above minimum regulatory and where applicable rating agency requirements. Excess capital not required for business purposes over the (three year) plan horizon will be up-streamed by EH Ré SA.
- Capital management seeks to add economic value over our cost of capital.
- EH management is committed to have shareholders participate in the economic development of the Group through dividend payments.
- The capital allocation for steering the business is based on the Internal Risk Capital Model also taking into account other constraints (such as rating and liquidity).
- The RC for New Business will be allocated top down to LoBs that produce the highest returns on RC applying the principles of portfolio management. Return on RC aims to ensure that EH Ré SA is adequately compensated for the risk to which it is exposed.

Please refer to section B.3.3.3 for further details on the capital management strategy in place in 2018.

E.1.1.2. Description of the own funds

"Own funds" are defined as the excess of assets over liabilities, reduced by the amount of own shares (held directly and indirectly) and the foreseeable dividends. The own funds are distinguished into basic own funds and ancillary own funds. Basic own funds are defined as the excess of assets over liabilities plus any qualifying subordinated liabilities. Ancillary own funds are defined as any capital resources other than basic own funds that could be called up in order to absorb losses. Ancillary own funds are off-balance sheet and require regulatory approval in order to qualify.

Figure 19: **Own funds evolution (MVBS)**

in M€	Q4 2018	Q4 2017	Variation
Total assets	670.5	747.9	-77.3
Total liabilities	573.4	654.2	-80.8
Excess of assets over liabilities	97.1	93.7	3.4
Subordinated liabilities	33.4	33.4	0.0
Available Capital	130.5	127.0	3.5

The evolution of the own funds is explained by a positive profit and other comprehensive income of the period, as well as a positive contribution of the Future Profits offset by the negative impact of the RM.

As of Q4 2018, EH Ré SA own funds are of high quality, all classified as basic own funds in Tier 1 in terms of available own funds to meet the SCR. Part of this Tier 1 own funds, the subordinated liabilities (26% of total own funds), are classified as restricted. The rest of them are classified as Tier 1 unrestricted.

EH Ré SA does not have any ancillary own funds.

Figure 20: **Composition of own funds (MVBS)**

In M€	Total	Tier 1 unrestricted	Tier 1 restricted
Ordinary share capital (gross of own shares)	**16.2**	16.2	0.0
Reconciliation reserve	**80.9**	80.9	0.0
Subordinated liabilities	**33.4**	0.0	33.4
Total basic own funds after deductions	**130.5**	97.1	33.4

On 31th December 2018, the amount recognized as subordinated liabilities was 33.4M€. This amount is the same as the one recognized for the year 2017. This subordinated debt have been provided by EH Re AG for an undefined period (with a minimum of 5 years) and its interests are indexed on the annual rate Euribor 1 year + 0.20 (In 2015 interests were indexed on annual rate Euribor 6 months + 0.20).

E.1.1.3. SCR and MCR covers

The following table summarizes the available amounts of own funds to cover MCR and SCR.

Figure 21: **Own funds available/eligible to meet the MCR/SCR (MVBS)**

In M€	Total	Tier 1 unrestricted	Tier 1 restricted	Tier 2
Total available own funds to meet the SCR	**130.5**	97.1	33.4	0.0
Total available own funds to meet the MCR	**130.5**	97.1	33.4	0.0
Total eligible own funds to meet the SCR	**130.5**	97.1	24.3	9.1
Total eligible own funds to meet the MCR	**125.0**	97.1	24.3	3.6

NB: Restricted Tier 1 should not account for more than 20% of total Tier 1 eligible own funds in terms of available own funds to meet the SCR. If restricted own funds go above this limit, they can be considered as Tier 2.

E.1.1.4. Differences between valuation in financial statements and for solvency purposes

Please refer to section D.

E.1.1.5. Description of items deducted from own funds

EH Ré SA does not have any ring-fenced or matching adjustment portfolio.

EH Ré SA does not have any item deducted from own funds.

E.1.2. Additional ratios

EH Ré SA does not disclose any other additional ratios.

E.1.3. Loss absorbency mechanism

Except subordinated liabilities for which information have been disclosed under section E.1.1.2, EH Ré SA does not have any other own funds item to which Article 71 (1)(e) of the Delegated Regulation applies.

E.1.4. Reconciliation reserve

The following table summarizes the calculation of reconciliation reserve.

Figure 22: **Breakdown of the reconciliation reserve (MVBS)**

In M€	Total
Excess of assets over liabilities	97.1
Other basic own fund items	16.2
Reconciliation reserve	80.9

E.2. Solvency Capital Requirement and Minimum Capital Requirement

E.2.1. Evolution of SCR and MCR ratios

The table below shows the evolution of the SCR standalone components between 2017 and 2018:

Figure 23: **Breakdown of the SCR**

in M€	Q4 2018	Q4 2017	Δ	%
Market	28.3	23.0	5.3	23%
Counterparty default	16.4	21.7	-5.2	-24%
Non-Life	87.9	95.5	-7.6	-8%
Total Standalone RC (excl. Operational Risk)	**132.7**	**140.2**	**-7.5**	**-5%**
Diversification impact	-47.8	-47.2	-0.6	1%
SCR before Residual, Operational Risk, Taxes	**84.9**	**93.0**	**-8.1**	**-9%**
Operational	13.6	14.2	-0.6	-4%
Loss-absorbing capacity of deferred taxes	-25.6	-27.9	2.3	-8%
SRC excluding capital add-on	**72.9**	**70.3**	**2.5**	**4%**
Capital add-on already set	0.0	0.0	0.0	0%
SCR	**72.9**	**79.3**	**-6.4**	**-8%**

Available own funds	130.5	127.0	3.5	3%
SII ratio	179%	160%		

In 2018, the amount accounted for EH Ré SA's MCR is 18.2M€. It has decreased by 8.1% since 2017 where the MCR amount accounted was 19.8 M€.

E.2.2. Standard formula and Undertaking Specific Parameters

EH Ré SA does not use Undertaking Specific Parameters.

E.2.3. Inputs to calculate the MCR

The MCR for EH Ré SA based on the SM is shown below for Q4 2018. The MCR equals the floor of 25% of the SCR. The calculation approach, which is the one recommended by the EIOPA, is exactly the same as in previous year and is explained in the table below.

Figure 24: MCR calculation (In M€)

IM/SM	MCR	AMCR	SCR	MCR linear	45% SCR	25% SCR	MCR combined
SM	18.2	3.6	72.9	13.8	32.8	18.2	18.2

The main inputs that enter into the calculation of EH Ré SA's MCR are summarized in the table below

Figure 25: Main inputs for MCR calculation

	Segment (SII LoB)	Factor for Technical Provisions	Factor for premiums written
9	Credit and surety insurance and proportional reinsurance	17.7%	11.3%

E.2.4. Material changes to SCR and MCR

Based on the previous analyses, there was no material change affecting both EH Ré SA's SCR and MCR.

E.3. Use of the duration-based Equity Risk sub-module in the calculation of the Solvency Capital Requirement

EH Ré SA does not use the duration-based Equity Risk sub-module in the calculation of its SCR as it is not applicable to its business.

E.4. Differences between the standard formula and any Internal Model used

E.4.1. Description of the Internal Model

E.4.1.1. Purposes for using an Internal Model

Since Q3 2018, and with the approval of its lead regulator, EH Ré SA uses the standard formula for the calculation of its regulatory capital requirements. Nevertheless, EH Ré SA has maintained its Internal Model to steer its risk profile.

The standard formula has a number of limitations for the representation of the credit and surety risk, starting from its classification as premium risk. These limitations are overcome by using an IM, and especially a Credit Risk type model for the credit insurance and surety LoB. Such a model is also better aligned to the way the risk profile is steered.

The following elements are considered as limitations in the standard formula applied to credit and surety risk:

- Classification of credit insurance and surety risk as premium risk while the underlying risk drivers are credit related;
- Separate consideration of Cat Risk while it is an inherent part of the underlying credit insurance risk;
- Incorrect applications of non-proportional treaties such as Stop Loss;
- Underestimation of nonlinear risk mitigation features present in the policies;
- Backward looking view on risk mitigation measures implemented in the policies.

E.4.1.2. Structure of the Internal Model

For steering purposes, EH Ré SA uses a full IM. One of the key features is that for the credit insurance and surety risk, EH Ré SA uses a local credit risk model developed and maintained internally.

This Credit Risk model is essentially a two steps approach:

- Simulation of the exposure which are defaulting leading to define the Exposure at Default (EAD);
- Application of the mitigation factors either present in policies, in the reinsurance treaties or other mitigation clauses leading to define the Ultimate Loss borne by the insurance company.

This modelling framework allows capturing of all the necessary feature of EH Ré SA risk profile by:

- Providing one loss distribution covering all loss scenarios and events;
- Reflecting directly in the loss distribution the risk mitigation features (either present in policy or a reinsurance treaty);
- Reflecting directly in the loss distribution the risk mitigation features attached to the policies;
- Reflecting portfolio evolution through the use of the most recent exposure;
- Reflecting management actions by taking into account risk underwriting stance and risk actions plan in the calibration of the model parameters.

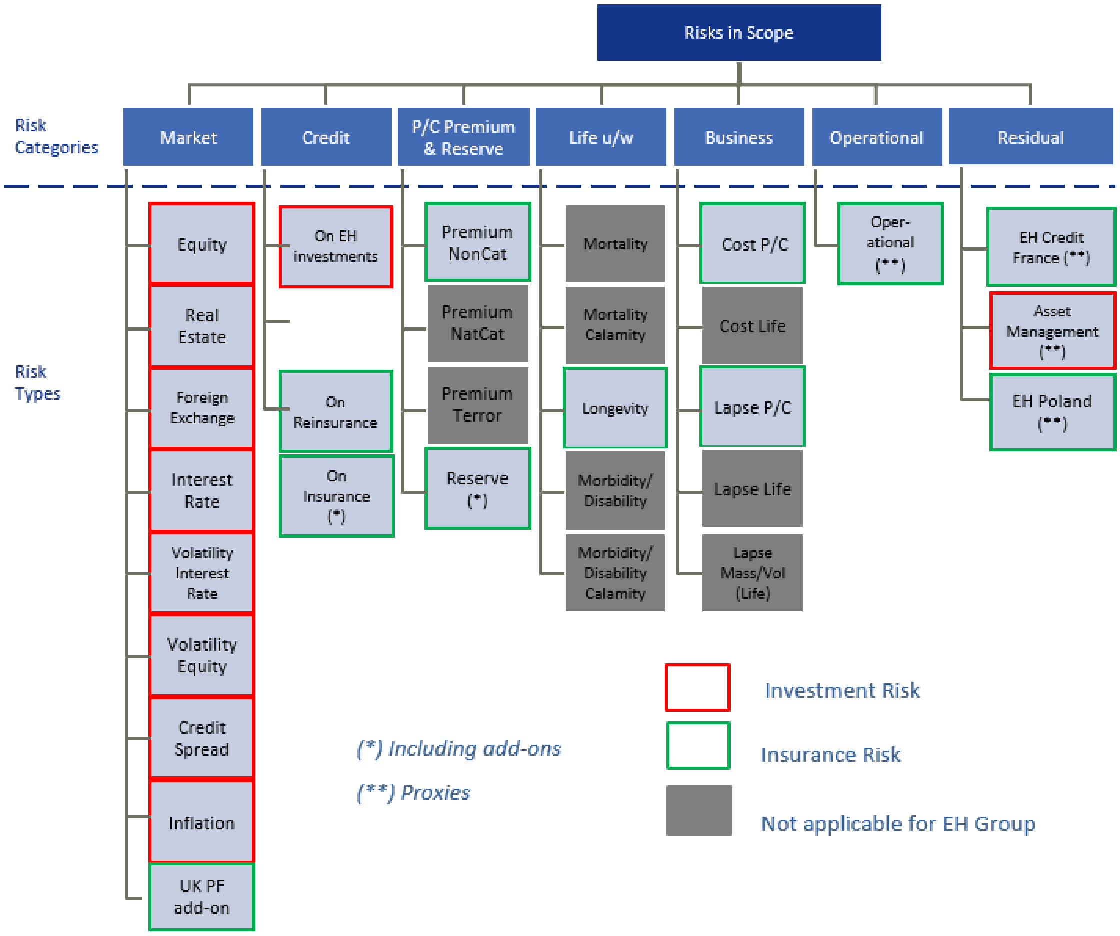
E.4.1.3. Scope of Internal Model

The EH Ré SA Internal RC Model covers:

- Financial risks attached to its credit insurance portfolio (credit risk) as well as to its investment portfolio (market risk and credit risk);
- Underwriting risks attached to its credit insurance, surety and fidelity portfolio (Premium risk, reserve risk and business risk);
- Operational risks attached to its day-to-day operations (operational risk).

The picture below shows the scope and structure of the IM.

Figure 26: Structure of the IM



E.4.2. Methodologies

E.4.2.1. Process within the Internal Model

EH Ré SA uses a full IM to steer its risk profile. The main methodologies and assumptions used in its IM are detailed in the following sections.

E.4.2.1.1. Market Risk

a. Definition of the measurement of the risk

VaR: quantifies the change in economic value as the minimum amount of capital required to ensure economic solvency for shock scenarios calibrated to a one year period with a given probability level. A probability level of 99.5% is retained for the RC.

The modelling approach within Market Risk has the four following generic components:

- The definition of risk factors and their impacts;
- The distributional assumptions;
- The calibration of the risk factors;
- Valuation of positions.

b. Distributional assumptions

All risk factors reflecting Market Risk have either a lognormal or a normal distribution.

c. Calibration of risk factor distribution and to Measurement period

EH Ré SA calibrates the distribution of risk factors on historical observation of weekly time series. This means the distribution of risk factors needs to be scaled to reflect this longer horizon.

d. Scenario based aggregation and its advantages

By means of Monte Carlo simulations, i.e. generation of independent samples of scenarios, EH Ré SA generates a set of random scenarios, sufficiently large to estimate statistical quantities.

E.4.2.1.2. Reserve Risk

a. Reserving Uncertainty

Loss reserving is the process of forecasting unpaid liabilities. In order to measure the uncertainty embedded with forecasting, it is needed to obtain a predictive distribution of the unpaid liabilities and the associated cash flows. For most stochastic reserving models discussed in the actuarial literature, it is not easy or rather impossible to obtain a predictive distribution analytically. Therefore, a simulation approach i.e. bootstrapping is adopted.

b. Cash flow Estimation for Reserve Risk

Where a paid bootstrap has been used to estimate reserve uncertainty in a LoB, the projected cash flow for that LoB is already available as defined by the bootstrap.

Where either an incurred bootstrap or a lognormal simulation of the reserve has been used a cash flow estimate is required in order to obtain an estimation of the paid claims over the first future time period.

c. Dependencies

A rank normal correlation is applied within the ultimate gross loss distributions of the reserving LoBs.

d. The emergence pattern methodology

The evaluation of risk as it materialises over the first calendar year of development is based on a methodology using Emergence Patterns. These are patterns which describe the loss recognition over time for both Premium and Reserve Risk.

e. RC

Even though the SCR is defined using the Value at Risk at the confidence level of 99.5%, EH Ré SA uses the term Ultimate Reserve RC for the difference between the VaR at the 99.93 percentile of the ultimate loss distribution at the horizon date and the mean of the ultimate loss distribution at the as-of-date. For a profit distribution this is the difference between the 0.07 percentile and the mean.

The RM is calculated according to the method prescribed by Committee of European Insurance and Occupational Pensions Supervisors (CEIOPS) for SII.

f. Loss Reserve RM Calculation

The RM by LoB is calculated for the Loss Reserves. First, the net risk profile by LoB is mapped to the SII LoBs. Next, the RC is calculated and then used to generate the RM.

g. Premium Reserve RM Calculation

The methodology for calculating the RM for the premium reserve is identical to that used for the loss reserves for all calendar years except the first. Using the net risk profile from the emergence pattern model section, the capital required for the Premium Risk is calculated.

E.4.2.1.3. Credit Risk

EH decided to manage Credit Risk calculation with the combined use of two different models:

- Moody's KMV model Risk Frontier for reinsurance and investments portfolios;
- EH TCI&S MODEL which is a specific model developed by EH in order to capture the specificities of its credit insurance and surety business (buyer focused risk assessment and default definition, policy features and reinsurance structure).

Credit RC is calculated at first separately for each sub-type of Credit Risk (investment, reinsurance and insurance risks) prior to be consolidated across Credit Risks.

E.4.2.1.3.1. Credit Risk for reinsurance and investment modelling

Credit Risk is measured as a change in market value of the portfolio over a certain time horizon, due to defaults and credit quality migrations.

RC calculation is done through IM based on a VaR approach. Following this approach, the loss in the portfolio value of businesses is assessed within a one-year timeframe for a large number of shock scenarios with a probability of occurrence up to 99.5% for RC calculation and 99.93% for economic capital calculation. This loss distribution provides Credit Value at Risk (CVaR) and Expected Losses.

The required internal RC is defined as the difference between the portfolio value under BE conditions and the portfolio value under the adverse conditions associated with the desired confidence level. The loss distribution is then derived.

For investment portfolio, EAD and Loss Given Default (LGD) are estimated following a linear model derived from a statistical analysis of historic data by asset classes.

E.4.2.1.3.2. Credit Risk for trade credit insurance & surety

The EAD is defined as the exposure of the buyer at the time of the default of the claims declared before application of any loss mitigation techniques.

EH is using a Merton-type approach as a basis to build its default process with a Gaussian copula framework.

The LGD is obtained by applying to the EAD all possible loss reduction features.

Then the simulation is based on Monte-Carlo numerical method based on correlated Gaussian path.

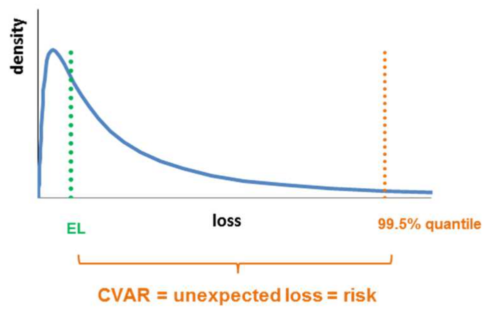
a. A model based on a static approach of the risk underwriting policy

EH Ré SA chose to integrate management actions that are foreseen for the next year.

EH Ré SA has opted for the use of a simulation approach to determine its Loss distribution. It is the natural approach in presence of non-homogeneous portfolios in high dimension. For SII purposes, the RC is then measured from the simulated loss distribution as follows:

$$CVaR_{99.5\%} = 99.5\%\ Quantile\ Loss - EL$$

Figure 27: Schematic view of the CVaR calculation



This choice also has the advantage of allowing the simulation of “extreme scenarios”, in particular the increase in frequency of claims (multiple loss events) and the occurrence of large losses (single loss events). Those events are covered by the man-made risk component of the standard formula.

b. A model distinguishing the systemic risk and the idiosyncratic risk

In the case of trade credit insurance, a particular limit/exposure default is triggered if an invoice sent by the policyholder is not paid by the buyer. In general, such default event is reported as an insured claim.

The central element of the model is to determine in a particular scenario:

- Whether or not a claim is to be expected on a counterpart;
- Whether or not the triggered claim will lead to an indemnification by EH;
- Whether or not EH can recover part of the indemnified amount later on.

The capacity of the buyers/counterparties to fulfil their commitments (e.g. to pay the received invoices) can depend either on its own actions but also on the economic environment. As a consequence, it has been judged that the commonly used credit factor modelling that distinguishes an idiosyncratic risk and a systemic risk is considered as the most adequate for the simulation of losses in the trade credit insurance and surety portfolio.

c. A point-in-time framework

The calibration of the parameter reflects the situation of the coming 12 months period.

E.4.2.1.4. Aggregation and diversification

VaR: quantifies the change in economic value as the minimum amount of capital required to ensure economic solvency for shock scenarios calibrated to one year period with a given probability The Required Internal RC is defined as the difference between the portfolio value under BE conditions and the portfolio value under the adverse conditions associated with the desired confidence level.

The aggregation method for EH Ré SA IM is based on an integrated Monte-Carlo simulation for Market Risk taking marginal risk distributions for non-Market Risk into account by modelling dependencies via a Gaussian Copula approach and taken into account diversification effects across sources of risk.

E.4.2.2. Difference between Standard Model and Internal Model

E.4.2.2.1. Market Risk

The scopes of IM & SM computations are identical for the Market Risk. It covers the EH Ré SA investment portfolio. There are however some differences in risk as some risks covered in the Market Risk of the SM are covered in the Credit Risk of the IM.

Hereafter is an overview of the main differences between the Market Risk sub-modules of the SM and the IM:

- Credit spread risk:
  - For covered and other bonds: lower shocks are applied in the IM compared to the SM;
  - Intra-Risk diversification: the SM approach does not allow for any diversification when aggregating all the values of shocked instruments where the IM approach allows for a significant diversification between the asset classes.
- Foreign Exchange Risk:
  - Intra-Risk diversification: the SM does not allow for diversification in the sub-module which is not the case in the IM;
  - Level of Shocks: while a single level of shock of 25% is defined in the SM approach, a specific level of shock is used in the IM.
- Interest Rates Risk are:
  - In SM, up and down stresses % changing the yield curve vary by term to maturity. A minimum is defined for interest rate up stress;
  - In IM, changes in the yield curve such as twists are considered, shifts for long-term are set. In addition, volatility stress is applied to yield curves;

    - In IM, there is diversification of Interest Rates Risk.
- Equity Risk: the average shock level for equity type 1 and equity type 2 are slightly higher in IM than SM;
- Property Risk: the average shock level for property risk is lower in IM than in SM.

Other differences come from difference in granularity/calibration between the two models.

Note also that European Economic Area (EEA) sovereign bonds, AAA and AA rated non-EEA sovereign bonds, supranational, and mortgage loans on residential property are not exempt from spread risk in the IM.

E.4.2.2.2. Credit Risk

The IM Credit Risk covers some components of the SM Market Risk and of the non-life Underwriting Risk. The SM counterparty default risk components are all covered by the IM Credit Risk.

The IM Credit Risk covers risks which are not covered in the SM (counterparty risk on European State bonds and counterparty risk on the SCR equivalent losses ceded to reinsurers).

As a consequence, these differences added to the differences in classification/granularity and calibration between the models and the differences in modelling (discrete approach for SM vs stochastic approach for IM) explain the differences in Credit Risk.

E.4.2.2.3. Non-Life Risks

Both models capture the same types of risks EH Ré SA is facing but following different classification and methods. Both models cover:

- The Premium, Reserve and Business Risks due to non-renewal of policies;
- The ordinary claims level and the extraordinary claims level (recession, single loss events).

The classification is different between the two models. All risks (Premium, Reserve and Business) are under Non-Life Risk for the SM while the equivalent of the Premium Risk of the trade credit insurance and surety business is classified under Credit Risk for the IM and the Lapse Risk is under Business Risk. This has a double impact: representation and diversification.

On components classified both under the Non-Life Risks, the main difference lies in:

- The methodology (discrete approach for the SM vs stochastic approach for the IM);
- The calibration (across the industry for the SM vs own calibration for the IM);
- The introduction of a diversification between "sub" LoBs (I.e. different products classified under credit and surety for EIOPA) of EH Ré SA and a diversification between countries;
- The diversification approach (diversification limited to non-life risk in the SM while extended to all risk in the IM).

The relative weights of these various components contribute all significantly to the difference between IM and SM.

On the trade credit insurance and surety portfolio, EH Ré SA has developed its own model which has been classified as Credit Risk.

This IM presents the following significant differences with the SM:

- Computation at the level of the risk buyer (i.e. client of the policyholder);
- Random scenario generation to simulate the loss distribution allowing for covering different extreme scenario which are embedded in the premium risk and not captured in parallel.

The results of the IM and its comparison to the SM shows that the significant difference is due to two main reasons: first the non-justified calibration of the recession risk by EIOPA and second, to the fact that the calibration of the premium risk by EIOPA is not in line with our own experience (EIOPA is roughly 50% higher than EH own calibration using EIOPA method) while the contribution of the large/single losses to the SCR are equivalent. Moreover, there are two other effects which might increase the gap between the Standard model and internal model:

- Internal model: Diminution of the Risk Capital add-ons due to the implementation of the recommendation required by the regulator
- Standard model: The premium risk for EH Ré SA will increase following the new standard deviation calibration.

E.4.2.2.4. Business Risks

Both models try to capture the deterioration of future earnings following a shock in terms of commercial activity. In the IM, the business risk has two components:

- One not comparable with the SM (the new production risk – SCR equal to the fixed cost attached to the new production);
- One which is partially comparable with the SM (retention risk – loss of operating profit to due to a less performant than anticipated renewal campaign).

The SM covers only this second risk.

However, on the component with similar philosophy, the calibration is not comparable and therefore the results are not directly comparable:

- IM – loss of operating profit on 100% of the portfolio;
- SM – loss of operating profit on the profitable portfolio.

E.4.2.2.5. Operational Risk

The SM and IM approaches are significantly different. The IM is based on own expert scenarios of Operational Risk while the SM is based across the industry calibration. As a consequence, EH Ré SA will not comment on the difference between the two models.

E.4.2.3. Diversification

The diversification mechanisms are significantly different due to:

- Different risk taxonomies (classification of risks) and underlying risk factors;
- Calibration factors which are different (in particular for the Operational Risk which is diversified in the IM and not in the SM);
- Different computation approaches (discrete for SM vs stochastic for IM).

Given the major differences highlighted above, it is difficult to compare diversification drivers and benefits between the SM and IM.

E.4.2.3.1. Tax relief

The tax relief methodology is identical between SM and IM computation.

Both methodologies calculate per branch the minimum of:

- The tax rate multiplied by the RC (if necessary splitting the RC per tax rate category); and
- The DTL in the MVBS.

E.4.3. Data quality

EH Ré SA has implemented a data quality Key Performance Indicator (KPI) system across the whole company in accordance with the SII expectations. This system is designed to identify the issues that might occur on the data and the IT systems involved in the calculation of the RC requirements. The KPIs are consolidated and reported to the different committees through the data quality dashboards.

These KPIs are reported separately: KPIs per risk type on one side and IT KPIs on the other side.

Hereunder is a Data Quality Dashboard as of Q4 2018 showing that the quality of the data used at EH Ré SA to calculate the regulatory RC is under control (0% of Kos).

Figure 28: **Data Quality Dashboard (SM)**

	Accuracy		Completeness		Conformity		Consistency		Duplication		Timeliness		Total	
Risk Type	**KPI #**	**KO in %**	**KPI #**	**KO in %**	**KPI #**	**KO in %**	**KPI #**	**KO in %**	**KPI #**	**KO in %**	**KPI #**	**KO in %**	**KPI #**	**KO in %**
Concentration & Counterparty Default Risk	10	0%	5	0%	0	0%	5	0%	0	0%	1	0%	21	0%
CAT Risk	4	0%	0	0%	0	0%	1	0%	0	0%	1	0%	6	0%
IT System Risk	0	0%	71	0%	71	0%	0	0%	71	0%	142	0%	355	0%
Lapse Risk	1	0%	0	0%	0	0%	1	0%	0	0%	1	0%	3	0%
Market Risk	10	0%	2	0%	0	0%	0	0%	0	0%	0	0%	12	0%
MVBS	1	0%	0	0%	0	0%	0	0%	0	0%	0	0%	1	0%
Operational Risk	1	0%	0	0%	0	0%	1	0%	0	0%	1	0%	3	0%
Premium and Reserve Risk	14	0%	0	0%	0	0%	1	0%	0	0%	1	0%	16	0%
Tax	3	0%	0	0%	0	0%	1	0%	0	0%	1	0%	5	0%
Grand Total	44	0%	78	0%	71	0%	10	0%	71	0%	148	0%	422	0%

E.4.4. Risks not covered by standard formula but covered by Internal Model

Please refer to section E.4.2.2 of this report for differences in the risks and methodologies used between the SM and the IM. In particular, differences in Business Risk are described in section E.4.2.2.4.

E.5. Non-compliance with the Minimum Capital Requirement and non-compliance with the Solvency Capital Requirement

EH Ré SA is compliant with both MCR and SCR

E.6. Any other information

EH Ré SA does not have any additional disclosures regarding its capital management.

Appendix 1: Key terms and abbreviations

Terms / Abbreviations	Description
ALM	Asset Liability Management
APAC	Asia and Pacific
BE	Best Estimate
BEL	Best Estimate Liabilities
BoD	Board of Directors
BoM	Board of Management
BU	Business Unit
CAA	Commissariat aux Assurances
CAT risk	Catastrophic risk
CDA	Counterparty Default Adjustment
CDC	Career Development Conference
CEIOPS	Committee of European Insurance and Occupational Pensions Supervisors
CEO	Chief Executive Officer
CIFS	Critical or Important function or Services
COBIT	Control Objectives for Information and Related Technologies
COSO	Committee of Sponsoring Organizations
CRO	Chief Risk Officer
CVaR	Credit Value at Risk
DAC	Deferred Acquisition Costs
DTL	Deferred Tax Liabilities
EAD	Exposure at Default
EEA	European Economic Area
EH	Euler Hermès
EH Group	Euler Hermes Group
EH Re	Euler Hermes Reinsurance
EH Re AG	Euler Hermes Reinsurance AG
EH Ré SA	Euler Hermes Reinsurance SA
EH SA	Euler Hermes SA
EIOPA	European Insurance and Occupational Pensions Authority
EU	European Union
EUR	Euro
FiCo	Financial Committee
FP	Future Premiums
FX	Exchange rate
G/L	Gains/Losses
HR	Human Resource
IFRS	International Financial Reporting Standards
IM	Internal Model
IMAP	Internal Model Approval Process
IR	Interest Rate
IRCS	Integrated Risk & Control System
IT	Information Technology

ITG	Investment and Treasury Group
KPI	Key Performance Indicator
LGD	Loss Given Default
LoB	Line of Business
LRC	Loss Reserve Committee
LuxGAAP	Luxembourg GAAP
MAAC	Model and Assumptions Approval Committee
MCR	Minimum Capital Requirement
MMEA	Mediterranean countries, Middle East and Africa
MO	Model Owner
MVBS	Market Value Balance Sheet
OE	Operating Entity
OREC	Operational Risk Event Capture
ORM	Operational Risk Management
ORSA	Own Risk and solvency assessment
PAAC	Parameters & Assumptions Approval committee
PD	Probability of Default
PR	Premium Received
QRT	Quantitative Reporting Templates
R&CM	Risk & Capital Management
RADAR	Risk Management Function following the Risk Assessment, Diagnostics, Analysis and Reporting process
RC	Risk Capital
RIC	Risk Information and Claims
RiCo	Risk Committee
RM	Risk Margin
SA	Société Anonyme
SAA	Strategic Asset Allocation
SAM	Standard Audit Manual
SCR	Solvency Capital Requirement
SFCR	Solvency and Financial Condition Report
SII	Solvency II
SLA	Service Level Agreement
SM	Standard Model
Solunion	Spain and Latin America (excl. Brazil) entities
SPV	Special Purpose Vehicle
TCI&S	Trade Credit Insurance & Suretyship
TP	Technical Provisions
TRA	Top Risk Assessment
UPR	Unearned Premium Reserve
VA	Volatility Adjustment
VAC	Validation Coordinator
VaR	Value at Risk

Appendix 2: Publically disclosed QRTs

Publically disclosed quantitative reporting templates (QRTs) can be found on the Euler Hermes Group main website: https://www.eulerhermes.com

Appendix 3: Disclaimer

To the best of the Company's knowledge, the information contained herein is accurate and reliable as of the date of publication. However, the Company does not assume any liability whatsoever for the accuracy and completeness of the information contained herein.