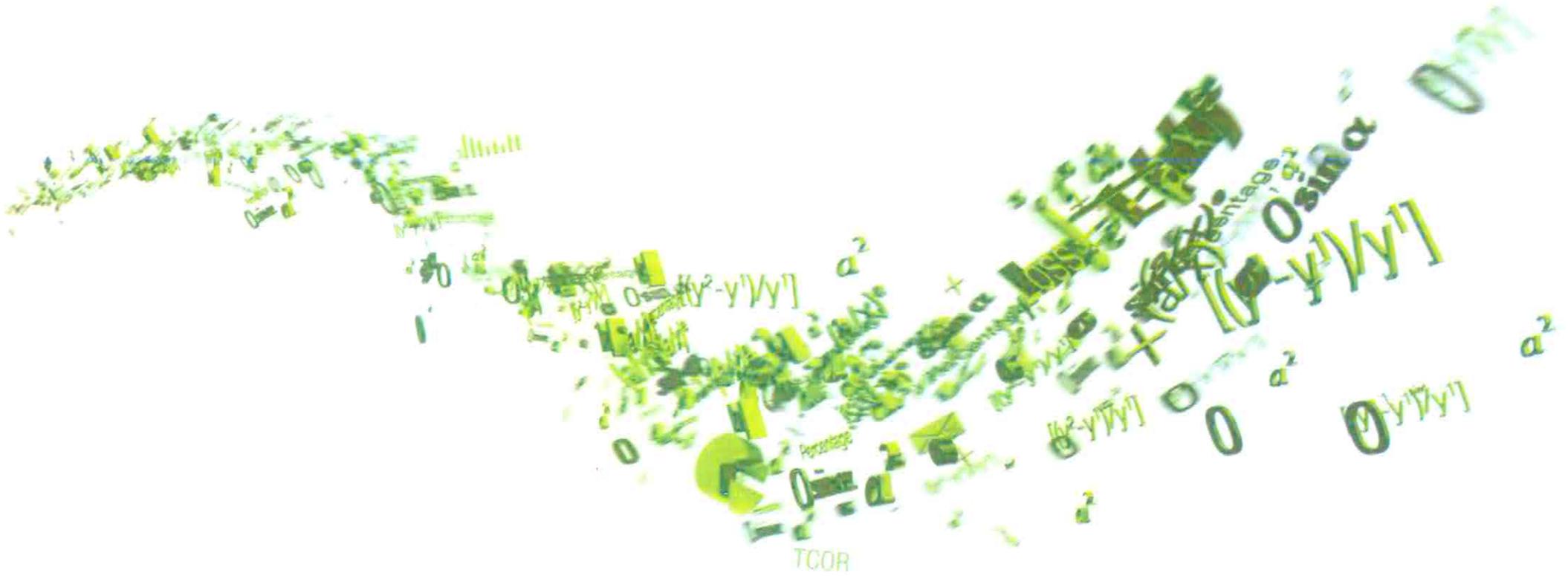


ΠΑΡΑΡΤΗΜΑ Θ

Παρουσίαση Aon Hewitt για Αναλογιστική Μελέτη 2016

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CYTA

Actuarial Funding Valuation of Pension Scheme as at 31 December 2016

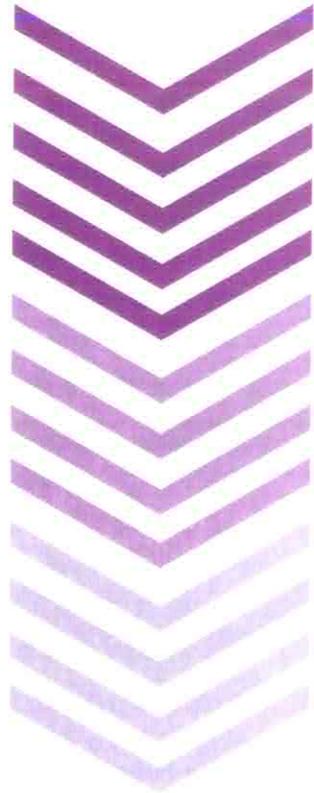
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- 1 Introduction to Funding
- 2 Principles of Funding
- 3 Membership Data / Plan Assets / Cashflows
- 4 Valuation Method & Assumptions
- 5 Funding Valuation Results
- 6 Recovery Plan

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Funding Valuation Process



Establish objectives (*including funding target and principles*)

Financial assumptions

Longevity assumptions

Other assumptions

Propose assumptions to employer

Gather membership data and perform valuation

Present [proposed assumptions and] results to employer

Discuss results

Propose contributions and alternative financing strategies

Discussions / negotiation with employer to reach agreement

Formalise paperwork (*statement of funding principles, valuation report, recovery plan and schedule of contributions*)



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Principles of Funding

- Summary of main pension terms as introduced by **Law 208(I)/2012** and relevant **European Directives**:

Technical Provisions

The target level of assets that the Trustees following consultation with the Employer decide is appropriate to meet promised benefits.

Funding Objective

To hold sufficient and appropriate assets to meet the **Technical Provisions**.

Funding Principles

A set of principles for meeting the **Funding Objective**.

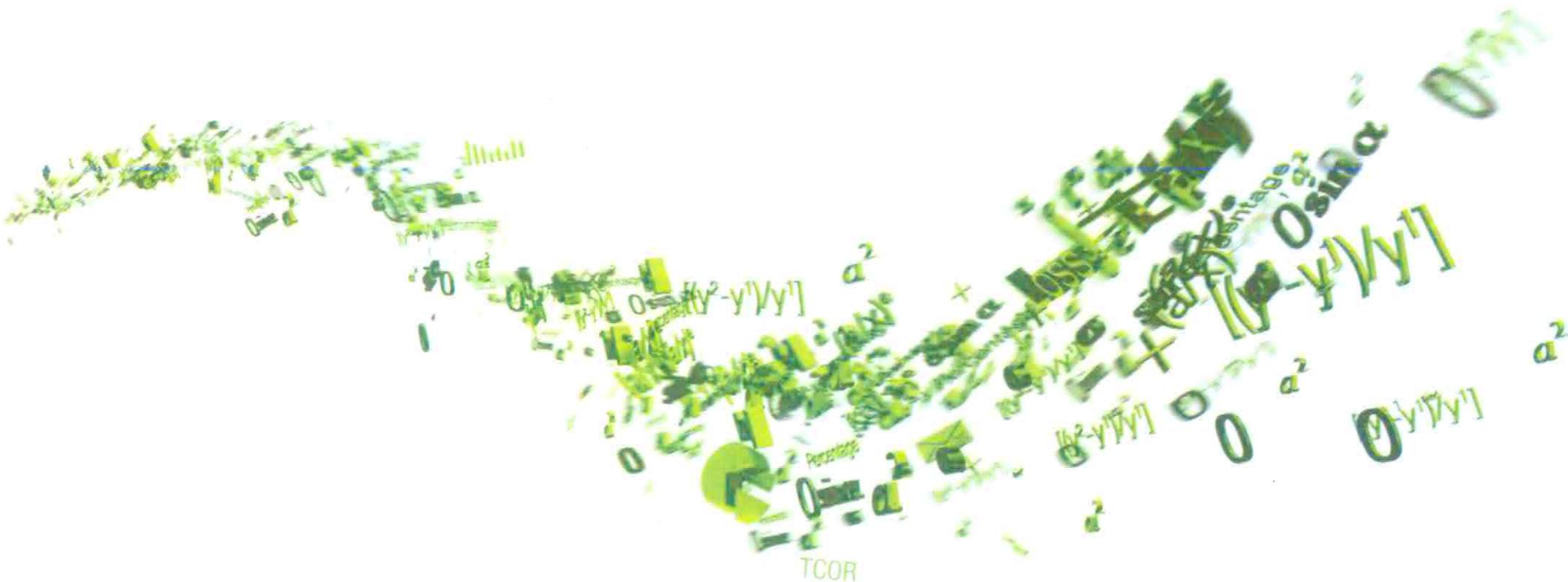
Recovery Plan

A document summarising a plan of action for correcting a **shortfall** over an agreed period.

Schedule of Contributions

A schedule setting out what contributions are payable, and when.

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sets / Cashflows

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Membership Data

- Collection of raw data was carried out under the responsibility of the employer, by its administrative staff.
- The personal data of insured individuals were delivered to Aon Hewitt in electronic form.
- The individual data was received as at **31 December 2016**.
- All figures are in denominated **EUR**.

Data Item	31/12/2016	31/12/2015
Number of active employees	1.642	1.649
- Average monthly pay	€ 3.041	€ 3.042
- Average Age (years)	46,9	45,9
- Average Pensionable Service (years)	22,0	21,0
Number of pensioners	1.535	1.516
- Average monthly pension	€ 1.840	€ 1.842
- Average Age (years)	68,4	68,2
Number of deferred members	92	147
- Average monthly pension	€ 1.371	€ 1.466
- Average Age (years)	51,6	52,7
Number of widows / orphans	294	280
- Average annual pension	€ 1.143	€ 1.131
- Average Age (years)	75,7	75,1

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Plan Assets / FY2016 Cashflows

- The Company provided details of the Fund Assets as at **31 December 2016**.
- CYTA has also informed us of the cashflows which occurred during **FY2016**.
- All figures are in denominated **EUR**.

Year ending	31/12/2016	31/12/2015
Market Value of Assets	562.167.305	565.825.426

Cashflow	01/01/16-31/12/2016
Company Contributions	24.822.488*
Pension and Lump Sum benefits	33.000.592
Employee Contributions	2.924.520

* Includes deficit contributions of EUR17m payable during FY2016.

- Given the market value of the Pension Plan Assets at 31/12/2015, and the above cash flows for the period 01/01/2016 – 31/12/2016, the average return achieved during the period was about **0,3%**.

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OPTIONS

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Assumptions

- The table below summarises the assumptions adopted as at 31 December 2016.

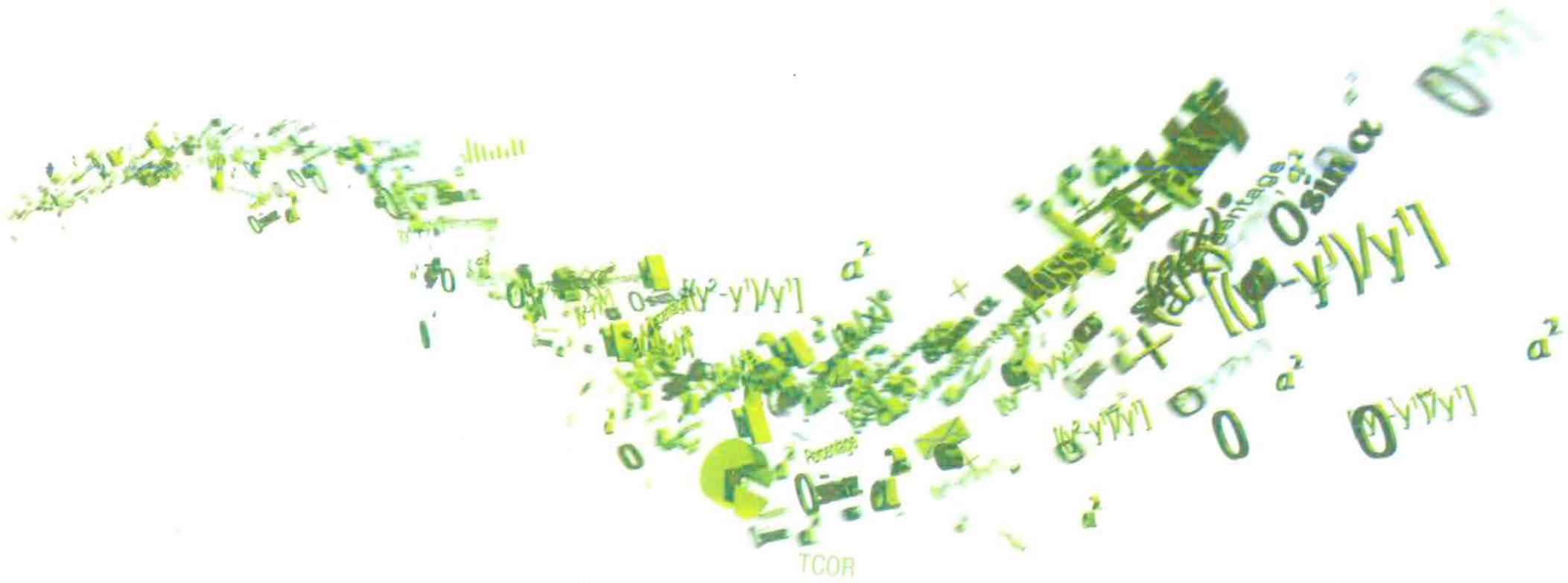
Assumptions	31/12/2016	31/12/2015
Discount Rate	2,70% (0,7% + 2,00%)	2,55% (1,3% + 1,25%)
Inflation Rate	2,00%	2,00%
Salary Increases	2016-2017: 0,00% 2017: 1,50% 2018-2019: 2,00% 2020+: 2,50%	2016-2017: 0,00% 2018: 1,00% 2019: 1,50% 2020: 2,00% 2021+: 2,50%
Pension Increases	2017: 0,00% 2018-2020: 1,00% 2021+: 1,50%	2016-2017: 0,00% 2018-2020: 1,00% 2021+: 1,50%
SIS Supplementary Pension Increases	1,00%	2016: 0,00% 2017+: 1,00%
Increase on MIE Limit	3,00%	3,00%
Mortality	88% of EVK2000	92% of EVK2000
Normal Retirement	Age 65 (as per Law 216(I)/2012)	Age 65 (as per Law 216(I)/2012)
Other pre-retirement exits	None	None

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Valuation Methodology – Attained Age Method

- Different methods affect the **pace of funding**, but every method should end up with sufficient assets to meet the liabilities as they fall due (provided the assumptions prove to be right and recommended contributions are paid).
- For schemes **closed to new entrants**, the **Attained Age method** can be used as it calculates the cost of the benefits expected to accrue to members over their expected remaining membership of the scheme expressed as a percentage of their expected pensionable pay. It also allows for projected future increases in pay through to retirement or date of leaving service. The method is based on the current membership and takes no account of the possibility of new members joining the scheme. It is therefore used mainly for closed schemes where no new members are admitted as in these circumstances the **required contribution rate is reasonably stable**.
- The method used for this valuation is the **Attained Age method**.

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Results – Past Service Position as at 31 December 2016

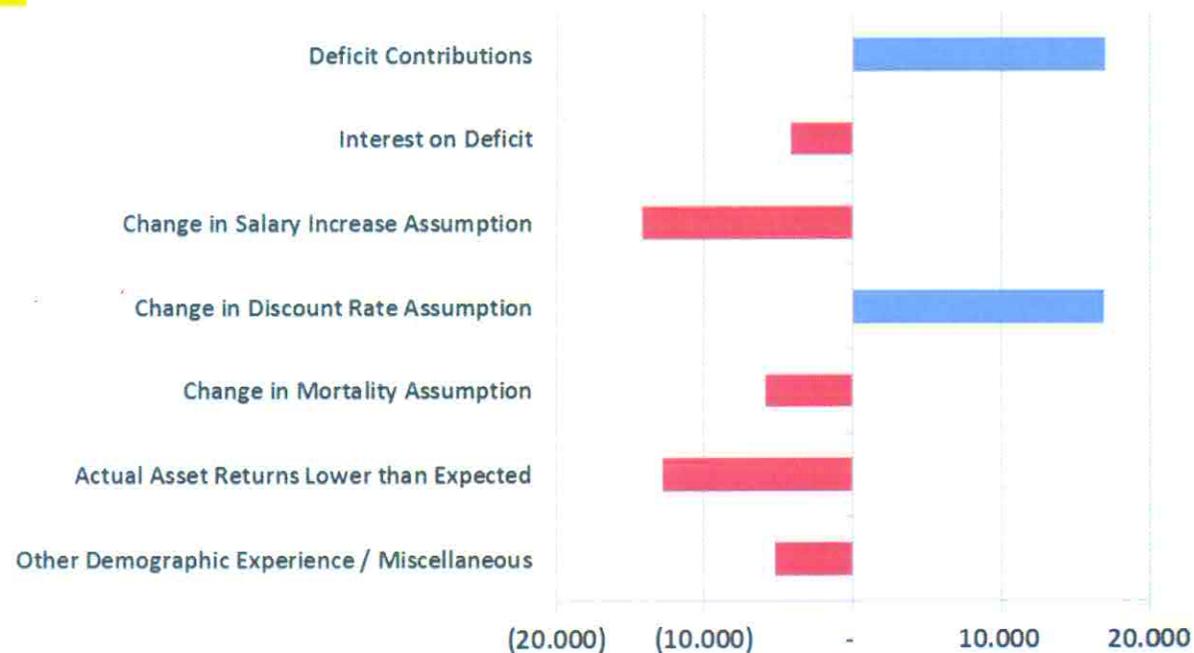
- The funding objective is to hold assets **equal** to the funding target. Therefore, we compare the market value of assets with the value of past-service ongoing liabilities.
- The table below summarizes the **past-service results**, under the chosen assumptions and methodology.
- All amounts in €.

Technical Provisions	31/12/2016
Actives	(244.951.250)
Deferreds	(27.486.667)
Pensioners	(447.072.778)
Widows / Orphans	(27.019.610)
Total Funding Target / Technical Provisions	(746.530.306)
Market Value of Assets	562.167.305
Funding Surplus / (Deficit)	(184.363.001)
Funding Level	75,3%

Analysis of Deficit

- As at the previous funding valuation (i.e. 31/12/2015), the Fund had a past-service deficit of **€176.114.477**.
- The past-service position has therefore worsened by **€8.248.524**.
- The table below summarises the main elements that contribute to this.

Surplus/(Deficit), € 000s	31/12/15 – 31/12/16
Surplus / (Deficit) at 31/12/2015	(176.114)
Deficit Contributions	17.000
Interest on Deficit	(4.133)
Change in Discount Rate Assumption	16.960
Change in Mortality Assumption	(5.878)
Change in Salary Increase Assumption	(14.208)
Actual Asset Returns Lower than Expected	(12.803)
Other Demographic Experience / Miscellaneous	(5.186)
Surplus / (Deficit) at 31/12/2016	(184.363)



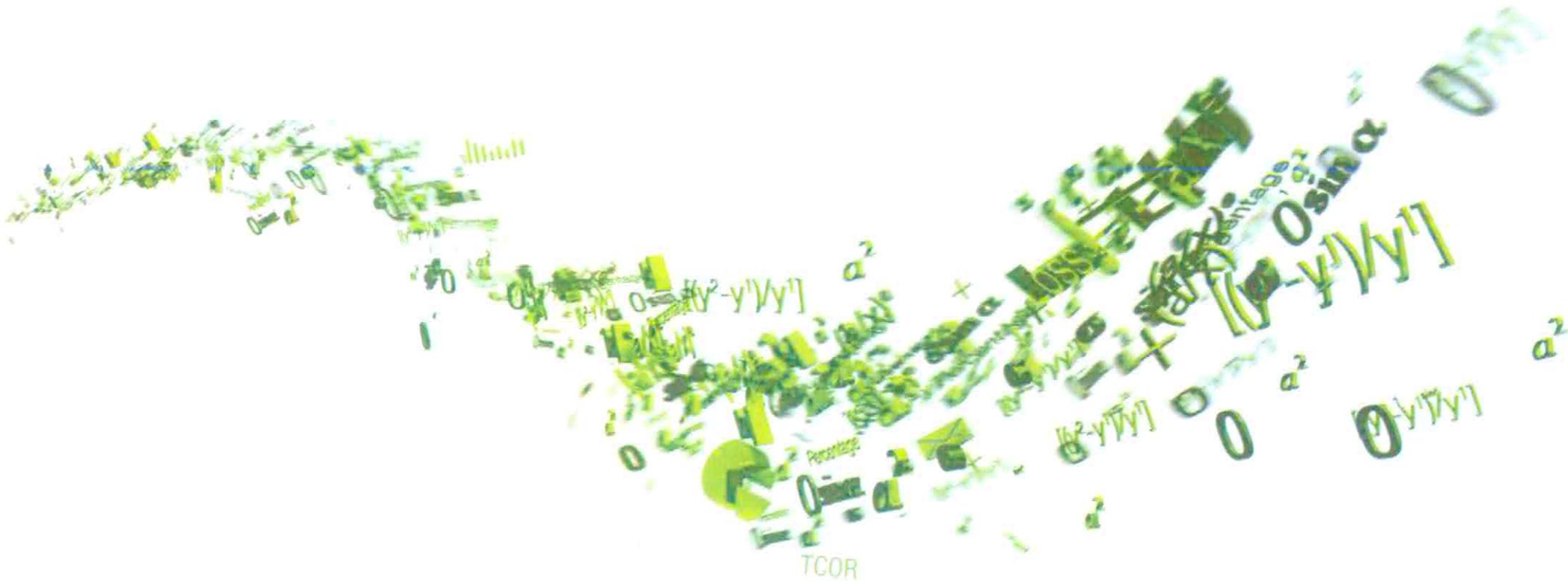
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Results – Future Service Position as at 31 December 2016

- The concept of the **Standard Contribution Rate (SCR)** is explained in detail below:
 - The SCR is the cost of benefits expected to accrue to existing members after the valuation date, expressed as a % of expected payroll.
 - In particular, for the purposes of this exercise, the SCR is expressed as a % of pensionable salary (i.e. basic pay plus COLA, excluding 13th salary).
 - The SCR ignores any past-service surplus or deficit.
 - If experience is as assumed, the above contribution rate is expected to be sufficient to finance the future service benefits.
- The table below summarizes the **future-service results**, under the chosen assumptions and methodology.

Contribution Rates	31/12/2016
Standard Contribution Rate (SCR) *	17,6%
Employees' Contribution Rate	-5,0%
Employer's Contribution Rate	12,6%
Estimated Employer's Contribution (FY2017)	€7,5M

* The disclosed contribution rate ignores any past-service surplus or deficit.



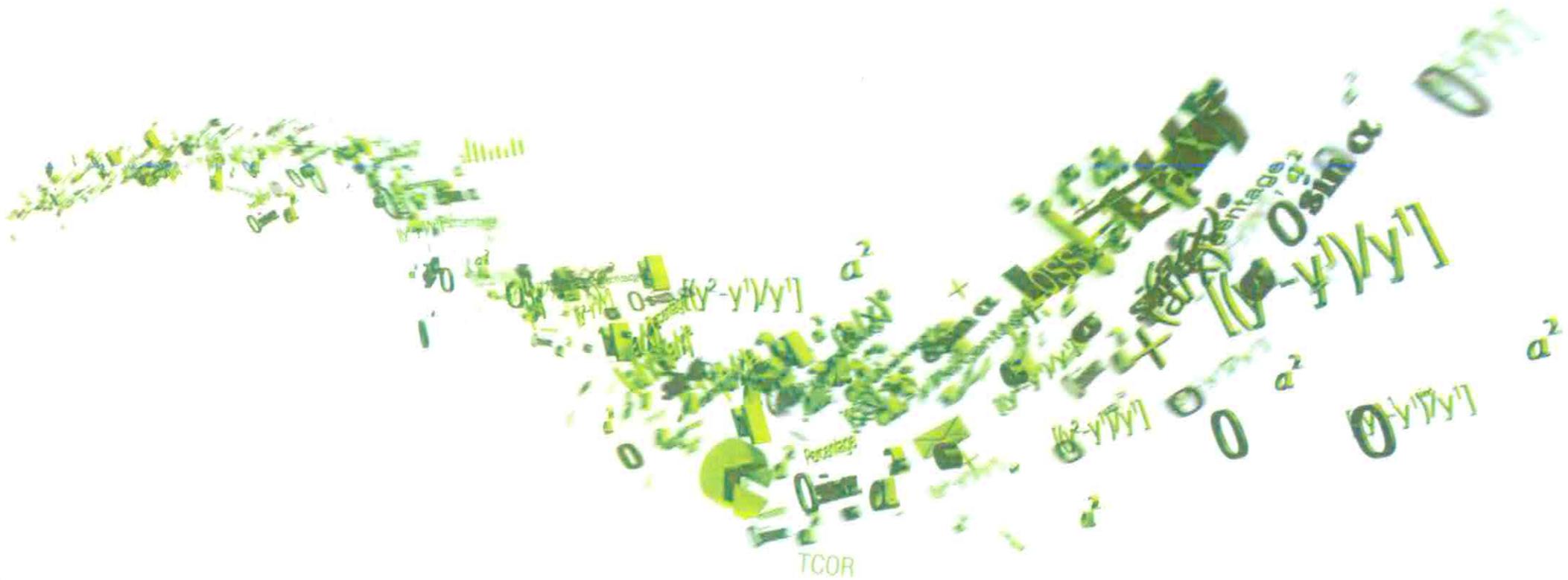
Introduction

- Where a valuation shows a **funding shortfall** against the **technical provisions**, trustees must prepare a **recovery plan** setting out how they plan to meet the **funding objective**.
- A recovery plan must be prepared by the trustees to satisfy the requirements of **Article 34 of Law 208(I) 2012**, after obtaining the advice of the Scheme Actuary and after consultation with the Employer.
- The recovery plan follows the actuarial valuation of the scheme as at 31 December 2016 which has revealed a funding shortfall (technical provisions minus value of assets) of **€184.363.001**.
- To **eliminate the funding shortfall**, the trustees and the Employer need to agree the **level** and **type** of additional contributions (i.e. contributions over and above those needed to cover benefits being earned in the future) that will be paid into the Scheme.
- The trustees together with the Employer also need to agree the **period** over which the funding objective should be met. Under the agreed recovery plan, if the assumptions made are borne out in practice and future scheme experience is as expected, then the funding shortfall must be eliminated within the chosen period.

Recovery Plan Options

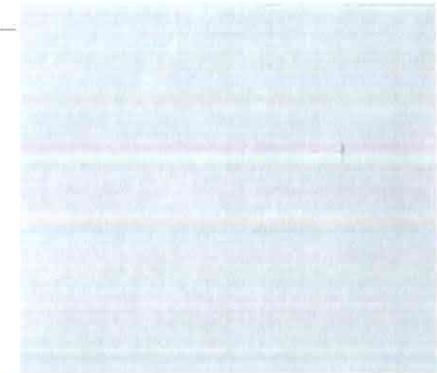
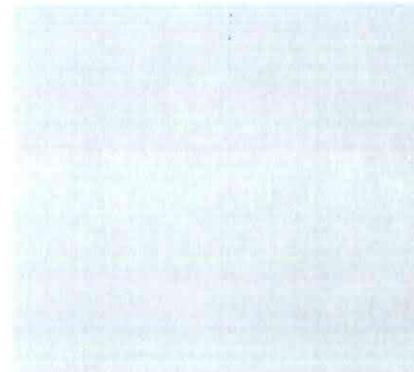
- On the basis of our long-term assumptions there was, at the valuation date, a **funding deficit of €184.363.001**.
- According to global practice, it is very common for pension schemes (similar to that of CYTA) to consider the **best estimate** asset returns for the purposes of drafting the recovery plan.
- As at 31/12/2016, the Scheme's assets have an expected return of **4,50% p.a.** over the next 10 years.
- In determining the optimal recovery plan, it is very important for the Employer and the trustees to consider the issue of **affordability upfront**. Trustees should recognize that a **longer recovery plan period** may be appropriate where technical provisions reflect a particularly **low risk / prudent** approach. Recovery periods can be **extended** especially if **additional security** provided.
- The trustees together with the Employer have decided to finance the past service deficit over a **10 year** period, assuming a return on assets, for future deficit contributions only of **4,50% pa.**
- This leads to an annual deficit contribution of **EUR 19,6 million pa.**





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