



Navigating life together

# **2018 Global Conference of Actuaries, Mumbai**

## **MetLife IFRS Overview**

# Agenda

1. IFRS 17 Actuarial Overview
2. MetLife IFRS Impact
3. IFRS 17 Prototype Summary Lessons Learned
4. Importance of Global Associates

# IFRS 17 Actuarial Overview

# Overview

IFRS 17 is the culmination of a 20 year project by the International Accounting Standards Board

It becomes effective on January 1, 2021, replacing IFRS 4

Increases consistency in reserve calculations for different products

Provides a current measurement of the insurer obligation

Allocates profit recognition over the coverage period

Redefines revenue

Increases the required footnote disclosures

# Measurement Models

IFRS 17 specifies three measurement models, depending of the features of the insurance contract:

<b>General Model (GM)</b>	<ul style="list-style-type: none"><li>– Default Model</li><li>– Includes long term contracts such as whole life, annuities, protection business and certain general insurance contracts</li><li>– Measurement based on Building Block Approach</li></ul>
<b>Premium Allocation Approach (PAA)</b>	<ul style="list-style-type: none"><li>– Permitted for most short-duration contracts (Typically with term of 1 year or less) and contracts where PAA approximates GM</li><li>– Includes General Insurance, short term life business and group business.</li><li>– Reserve over coverage period is unearned premium</li><li>– Claim reserves still follow GM, without CSM</li></ul>
<b>Variable Fee Approach (VFA)</b>	<ul style="list-style-type: none"><li>– GM modified for direct participating business</li><li>– Includes unit-linked contracts, 90-10 contracts and with-profits contracts</li><li>– Measurement based on Building Block Approach</li></ul>

# General Model

## Contractual Service Margin (CSM)

- Represents the future profit in the contracts
- Established at contract inception for profitable contracts
- Subsequently measured to take account of changes in the reporting period
- Cannot be negative

## Fulfilment cash-flows:

### Future cash-flows (FCF)

- Unbiased estimate of future cash flows, without margin for conservatism
- Needs to be consistent with any observable market data
- Includes acquisition expenses
- To be within the boundaries of the existing contract

### Risk Adjustment (RA)

- The compensation that an entity requires for bearing the uncertainty about the amount and timing of the cash flows that arise as an entity fulfils the insurance contract
- No specific methodology has been prescribed

### Discounting

- Adjustment to the estimate of future cash flows reflect the time value of money
- Using a current yield curve that represents the characteristics of the liability

# Revenue

- Under IFRS 17, revenue is an actuarial calculation
  - Neither premiums nor fees collected are considered revenue
- Revenue is calculated as:

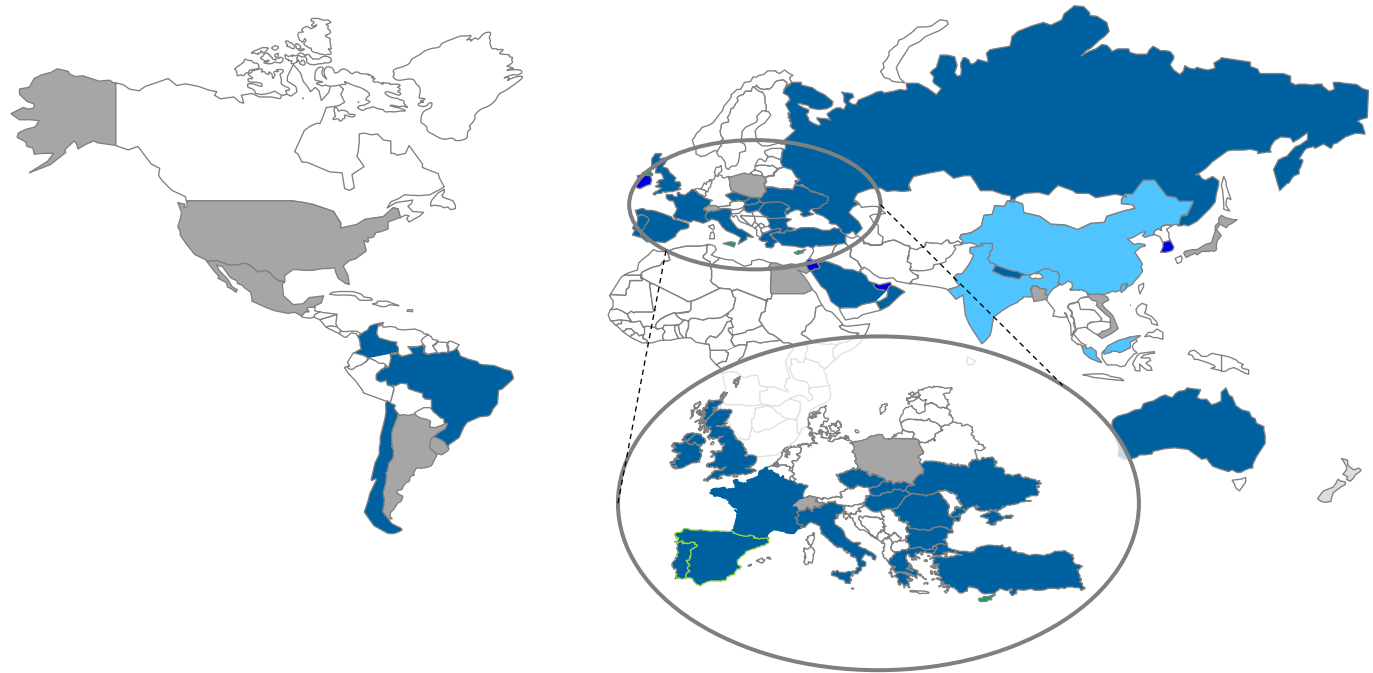
	Release of CSM
+	Release of Risk Adjustment
+	Expected claims
+	Expected Expenses
+	Recovery of insurance acquisition cash flows
+/-	Adjustment to revenue for loss component
	<u>Total insurance contract revenue</u>

# MetLife IFRS Impact



# IFRS has a Global Footprint

36 out of 46 countries required to implement IFRS or (similar standards)



MetLife entities impacted:

- > 58 out of 142 Legal Entities
- 2017: Prototype countries
  - 1) *Greece*
  - 2) *Colombia*

31	IFRS Required Countries
5	Local GAAP similar/equivalent to IFRS:
10	IFRS not required

# MetLife's Interest in IFRS 17

- IFRS is not the public reporting basis for MetLife's consolidated entity, BUT
- IFRS is the public reporting basis in more than 30 of the countries in which MetLife has businesses
- IFRS 17 may eventually provide a basis for solvency reporting
- IFRS 17 has similarities to other reporting bases that MetLife uses:
  - Embedded value
  - Solvency II
- MetLife is engaging in an ambitious cash flow generation project that can be used for all reporting bases requiring current estimates of future cash flows

# The Role We Play

## Actuarial Resources' Role

- Actuaries as the financial engineers of the Company
- Producing accurate valuations of the Company's liabilities
- Increasing its pricing discipline
- Reducing the capital intensity of its products
- Maintaining its targeted risk profile, and achieving its targeted returns

## How We will Execute

- Elevate our role to be **trusted advisors** to our partners
- Enable a **clear line of sight** into actuarial practices across the company
- Increase **global scale**, consistency and **flexibility**

# Actuarial Resources Organization



# Global Actuarial Modeling

## Organizational Structure

### Development

Leading MetLife's actuarial developments to keep us at the forefront of modeling methodologies and technology. The development team are trusted advisors of MetLife's actuaries on all modeling issues.



### Quality Assurance

Providing standards and methodologies to ensure that MetLife models are accurate and reliable and can answer regulators and auditors queries with confidence.



### Production

Leading the processes for running models and getting models from a state of development into use. The production team focus on the customers requirements ensures they get their results as easily as possible.



### PMO

Ensuring that projects are properly scoped, executed and delivered. That their implementation is done to their definition. Scope is agreed with the customer to ensure their requirements are met.



### GOSC / Argentina

An integral part of GAM teams, the Argentina and GOSC teams brings new skills and resource management.



# Global Actuarial Modeling

## Modeling Efforts Statistics

### Platforms / Models / Countries

- PathWise – 5 models / 3 countries (Korea, USA, UK)
- Prophet – 22 models / 21 countries (All Regions)
- USLMS – 2 models / USA

### Changes Processed (per year)

- 1000 model changes
- Average 2 release per year per model

# Global Actuarial Modeling

## Principles

- ✓ Model **ownership is separated** from Use ownership
- ✓ **Requirements** define modeling programs
- ✓ A **contract is formed** between GAM and the customer based on their specification and budget
- ✓ Model **quality assurance and development** are separated
- ✓ **Modeling standards** are defined, applied & tested
- ✓ Valuation Model Conversions completed to agreed high-level **acceptance criteria**
- ✓ **Impact analysis** of model changes and conversions documented to auditable standards
- ✓ Work performed in line with **MetLife Model Risk Governance Policy** and **MetLife Actuarial Practice Standards**
- ✓ Model **Scope, Specifications** and **Test Plans** Defined and Agreed
- ✓ **Production Model Change Cycle**: Request, Log, Approve, Code, Test, Document
- ✓ Production Model Changes require testing vs. expected results for **ALL uses**
- ✓ Global Transparent Scalable **Defect Management** Process drives continuous, measurable improvement

# MetLife Approach to IFRS Implementation



# MetLife Approach to IFRS Implementation

## Future State Cash Flow Generation



“FIRST” Financial Repository



Centralized Modeling Platform



Unified Analytic / Reporting Platform

Modeling and Infrastructure designed for multiple financial reporting bases within common models, systems and process

# MetLife Approach to IFRS Implementation

## “FIRST” Financial Repository

- Single Repository for all Finance Data
  - Policy Data
  - Accounting Data
  - Investment Data
- Automated feeds from upstream Administrative Systems
- Automated data controls
- Automated feeds to Common Modeling Platform



Single “Source of Truth” for all Actuarial Processes

# MetLife Approach to IFRS Implementation

## Centralized Modeling Platform

- Actuarial calculations within Common Modeling Software
- Calculation Enrichment for Multiple Uses within Common Models
- Centralized Modeling Function
- Actuarial Assumption Management integrated within Centralized Modeling Platform
- Automated Job Execution
- Adhoc Analysis leveraging Enterprise Infrastructure



Consistent Model Management

# MetLife Approach to IFRS Implementation

## Unified Analytic / Reporting Platform

- Centralized Repository for Actuarial Cash Flow Results
- Common Analytic and Reporting tools supporting wide number of Uses
  - IFRS, EV, EC, GAAP, ALM, SII, ...
- Automated Control Reports
- Data accessibility for next generation tools



Enabling Actuarial Expertise

# MetLife Approach to IFRS Implementation

## Future State Cash Flow Generation



Single source of truth and automated data feed



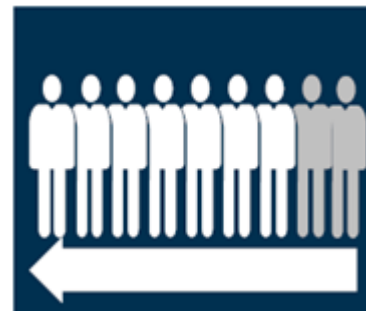
Automated report generation



More focused on actuarial analytics and commentary



Automated controls and documentation across E2E processes



Process efficiencies to support more frequent runs

Holistic Infrastructure supporting Actuarial processes

# **IFRS 17 Prototype Summary Lessons Learned**

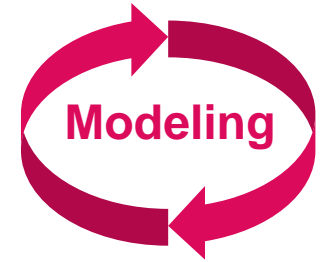
# Key Lessons Learned: Data



## Data & Assumptions

- Critical gaps in availability of **historical data** and **actual cash flows** at necessary granularity
  - Engage Local Office, IT & Finance early in IFRS 17 data acquisition plan
  - Local office involvement is key to understand data and assumption anomalies
  - Allow additional effort and time when retrieving historical data from legacy administration systems
- For countries without existing and audited best estimate cashflows, developing suitable assumptions will be significant undertaking
- For all countries, regardless of model and assumption maturity, key IFRS 17 assumptions requiring assessment include: attributable expenses, contract boundaries, illiquidity premium/discount rate and coverage units
  - Coverage unit selection provides a significant lever for managing results
- Develop a plan to capture and store data

# Key Lessons Learned: Modeling



## Modeling/Cash Flows

- Prophet already has the functionality for a majority of the IFRS 17 calculations. Some functionality yet to be released.
  - Important to maintain close working relationship with FIS to maximize the benefits from the development of the IFRS17 module – the latest release already reflects feedback provided by GAM
  - To maximize benefit and efficiency of using Prophet, need to assess the ability of Prophet to use cash-flows from external models to create IFRS results
  - Reinsurance functionality is still under development in FIS
- To accelerate IFRS modeling, leverage current understanding of the business with local office support.
  - Workshops early after kick-off facilitate this discovery phase
- Allow for time in the project plan and resourcing to refine cashflow models for IFRS 17 components even where robust cashflow models exist
- Best for local teams to lead classification of contracts, but with robust challenge before model development begins to avoid modeling rework and delays
  - For example, assessing VFA and PAA eligibility can be complex



# Key Lessons Learned: Methodology



## Methodology

- Calculation of the risk adjustment using a cost of capital approach in Prophet was successful:
  - Need to evaluate the complexity and number of runs required to run a complete process within the reporting cycle
  - Assess the appropriateness of the confidence level given the assumptions adopted in prototype
- Adopting a retrospective approach to Transition significantly increases the time and effort required to produce results
  - Utilize fair value to reduce cost of implementation, unless regulatory restrictions or management justification for retrospective approach
- The basis selected for systematic allocation of loss component materially impacts the likelihood of future recognition of CSM and the expected profit profile
- Allow time in project plan to optimize level of aggregation – this is a balance between detail and ability to manage results

# Key Lessons Learned: Results



## Reporting & Output

- Disclosures are significantly different to current reporting
  - Significant time and effort necessary to understand how Prophet output translates into IFRS disclosure requirements in order to explain results
  - Knowledge of the software and the IFRS Standard necessary to validate results
  - Comparison to existing disclosures/reporting is crucial as a control on results
- Presentation and Disclosure required aggregating of information from spreadsheets
  - An automated process to create data and a robust reporting infrastructure is key in producing results efficiently.
- Results need to be reviewed by the business teams in the local office to identify potential commercial and capital implications
  - For example, the impact on Greece's Medical business of using a long term contract boundary for IFRS17

# Key Lessons Learned: People

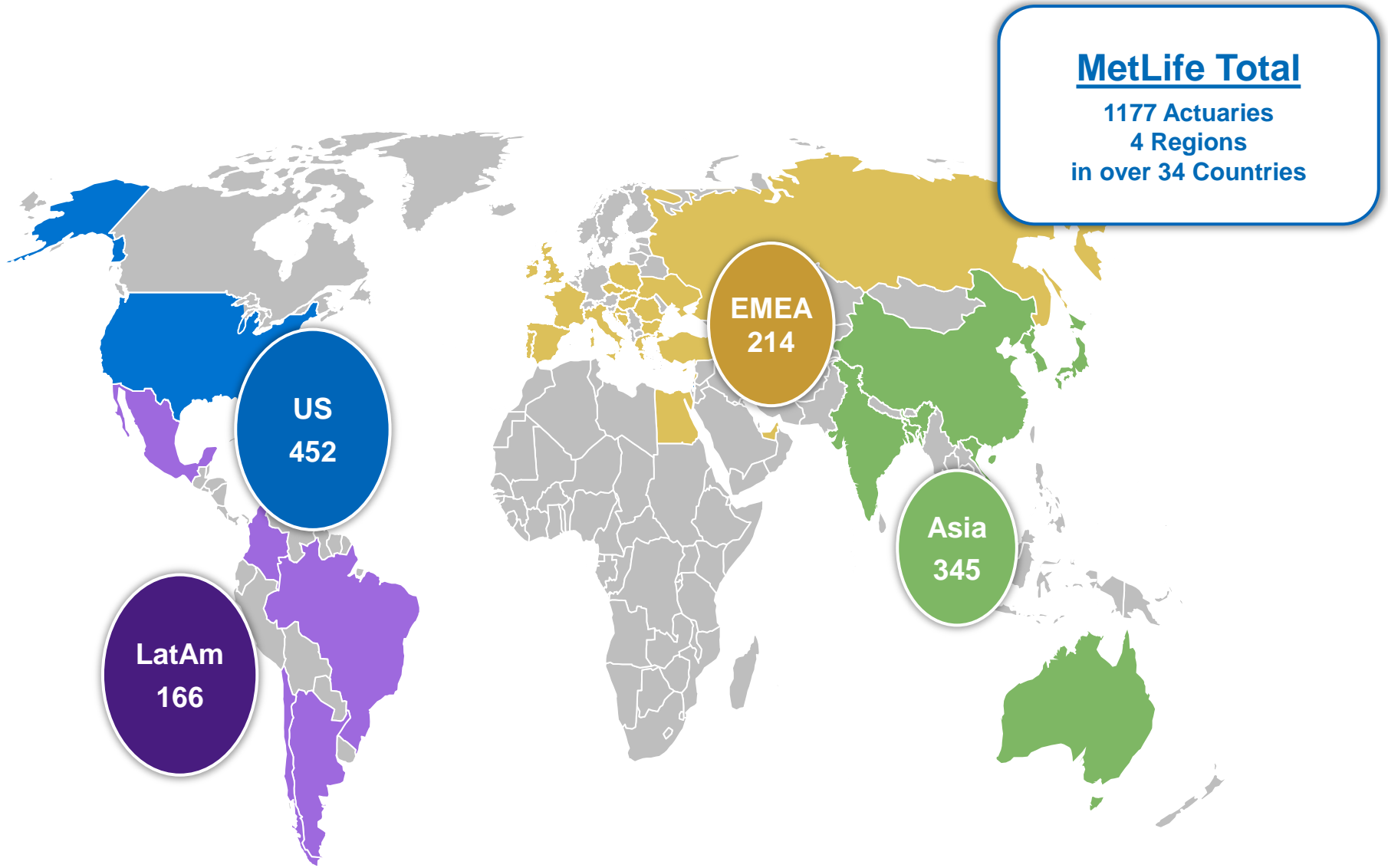


## People/Training/Communication

- Consistent and early training and regular communication of expectations to all stakeholder groups
- Business Requirements to be actively managed and updated throughout the implementation
- Resources with the level of expertise required are limited
  - Teams will require IFRS17 support and upskilling
  - Priority conflicts
  - Dual language considerations
- Commitment necessary from IT, Finance, Accounting and Actuarial
  - View as a full entity initiative versus a functional initiative
  - Clearly define roles & responsibilities along with expected accountability & sign-offs

# Importance of Global Associates

# MetLife actuaries by region



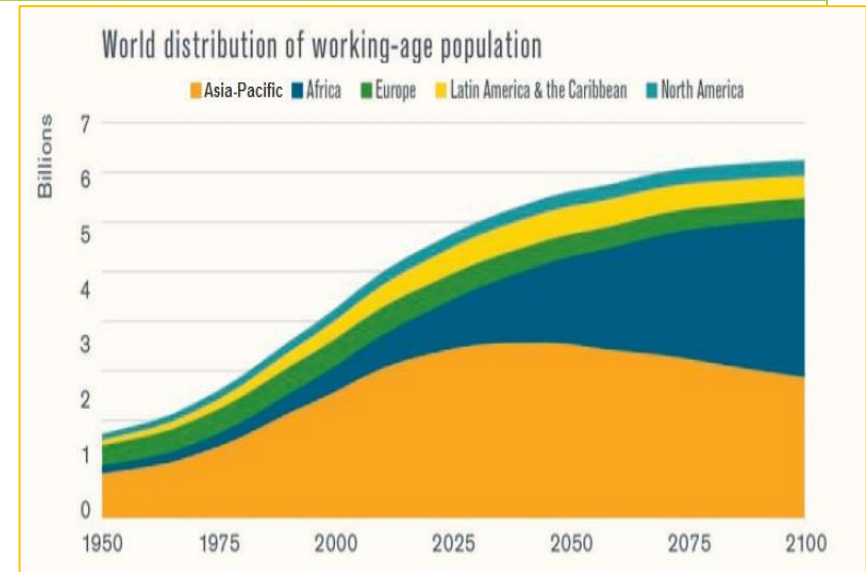
# Advantage Of Talent & Efficient Work-stream

## Demographic Dividend

- High Proportion of Working Age Population

## Growing count of Actuarial Professionals

- Increasing Demand for Actuaries from Insurance Ventures
- Credentials from Actuarial Associations And Support from Employers

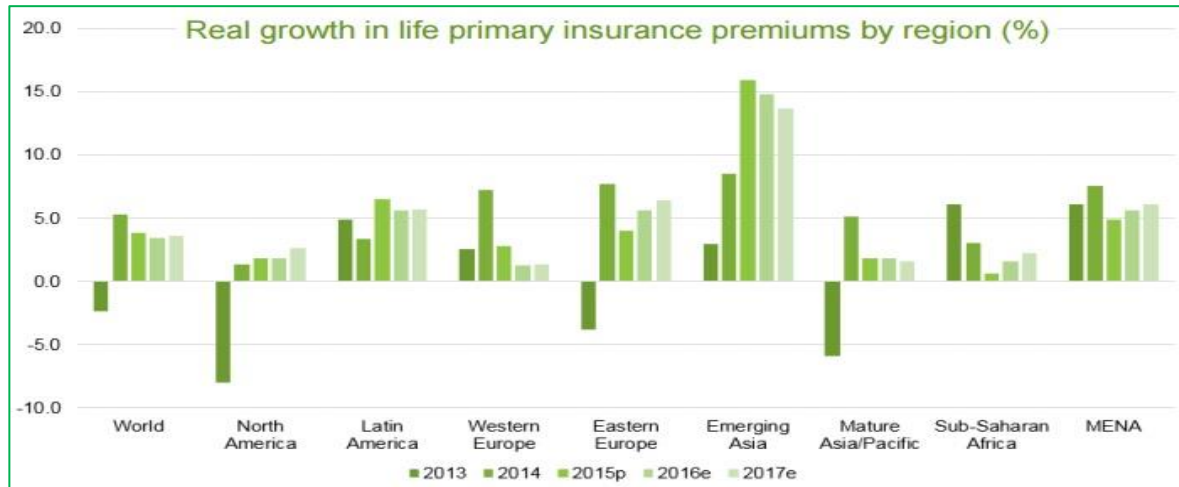


## Genesis of Globalization - Actuarial Shared Services

- Technology enabled Round the Clock Functioning of Actuarial Teams
- Gain Efficiencies by consolidating common work streams for Global Firms
- Ability to Build a Talent Pool with niche capabilities; may/may not be available in all geographies
- Best of both worlds – Management Decisions driven by Local Business & common actuarial / other functions performed in Asia
- Cost / Tax advantages yielding better margins particularly in low interest rate environment

# Asia: The Future Growth Engine

Insurance penetration\* very low in Emerging Asian Economies (1 to 4%) compared to Developed Economies (6 to 11%)



Source: Munich Re Insurance Market Outlook May 2016

Large untapped market lending support to sustained longer term growth

- Estimated double digit growth\*\* in working population in 2015-30
- Rise in incomes of corporates/individuals to boost insurance demand
  - ✓ Growing Middle & Affluent class spurring demand for savings and investment products
  - ✓ Inadequate public retirement and pension systems spurring demand for annuity / health products
  - ✓ Growing Economic Assets spurring demand for Asset Insurance
- High interest rates in developing Asian Economies positions them to offer longer tenure insurance products

\* Premium to GDP Ratio from Swiss Re Sigma Report 2016

\*\*UNDP 2016 Report estimates 10% growth during this period

# Membership and Candidates

## Society of Actuaries (SOA)

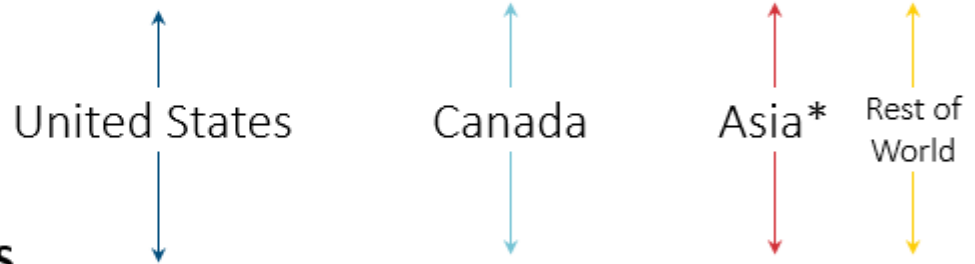
- 36,200 candidates in 112 countries
- 26,500 members in 82 countries
- 3,700 volunteers
- Overseas Membership is sizeable

## Institute Faculty of Actuaries

- 29,000 Members in over 100 countries
- 54% of Members based in within United Kingdom
- 9% within rest of Europe and
- 37% are based in Rest of World



▶▶▶▶ CURRENT MEMBERS



▶▶▶▶ CURRENT CANDIDATES



Source: 2015 Society of Actuaries – Membership and Candidates Data

# TOP 10 SOA EXAM CENTERS

1. Toronto
2. New York
3. Montreal
4. Hong Kong
5. Taipei
6. Seoul
7. Chicago
8. Kuala Lumpur
9. Beijing
10. Hartford

# India Actuaries: Associates & Fellows

## Steady Growth in Actuarial Professionals

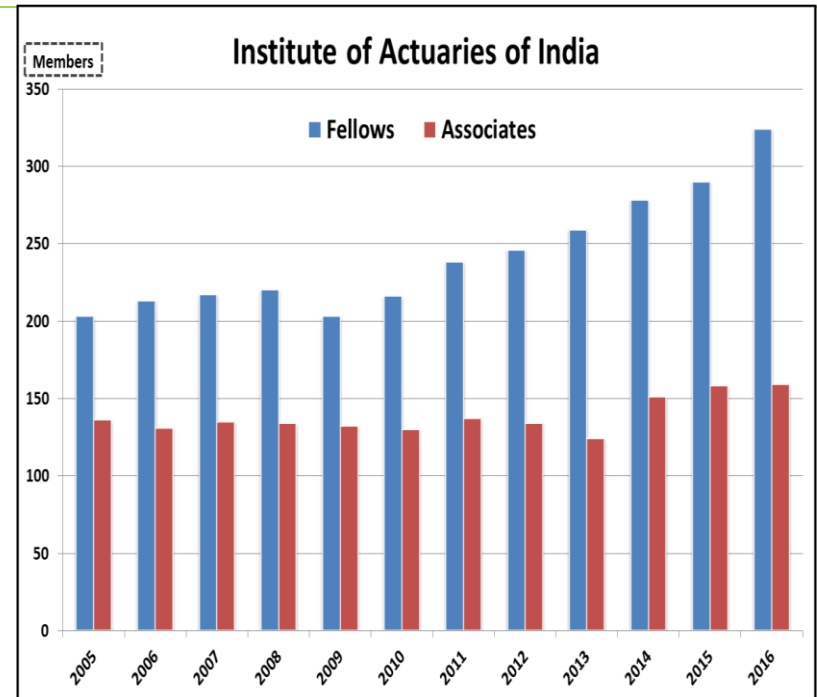
- Qualified Fellows growing over past decade
- Associate Count occludes the steady movement from students to Associates and Associates to Fellows
- Consistent Focus on Continued Professional Development

## Enhanced Study Support And Transparency

- Coaching sessions conducted for initial papers
- Exam Counselling & Coaching sessions for higher papers
- Student Access to Answer Scripts & Marks Verification

## Renewed Focus on Quality of Students

- Introduction of Common Entrance Examination; currently conducted across 41 Centers
- Increased Basic Competency of student intake; inclusion of DI, Reasoning and English with Statistics & Mathematics
- Financial support to bright students from economically weaker sections of society



\* Source: IAI Annual Report 2015-2016

# India Actuaries: Student population

Student Membership increasing over the years

