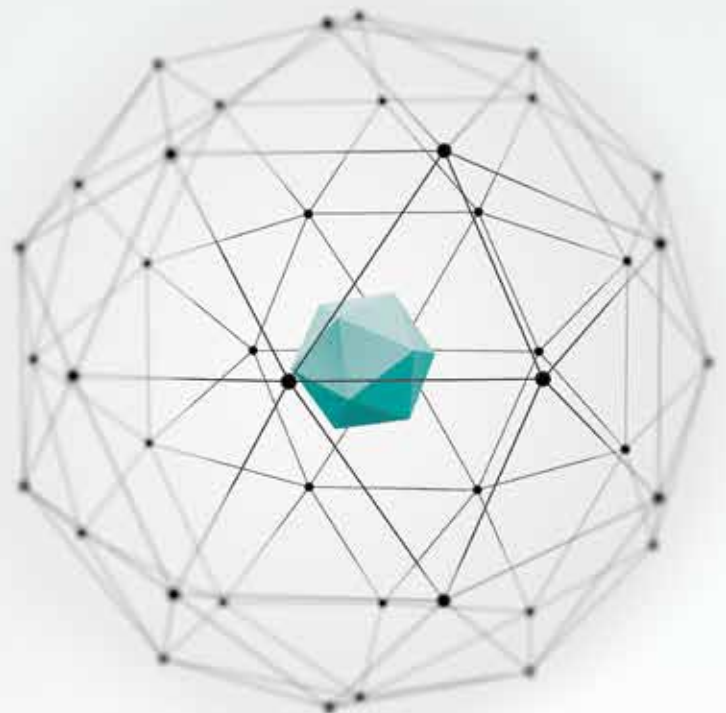




# Dynamic Risk Assessment

## **The power of four**

An evolution in risk assessment that applies actuarial theories, sophisticated algorithms, mathematics and advanced D&A together in a KPMG proprietary methodology to identify, connect and visualize risk in four dimensions.



KPMG International



[kpmg.com/dra](http://kpmg.com/dra)

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# Introduction

We believe that KPMG's \*Dynamic Risk Assessment (DRA) marks a groundbreaking shift in risk identification.

DRA was developed to provide KPMG auditors and clients with a better understanding of the risks their organizations face in today's complex world of developing technology, emerging markets, climate change, growing populations and other mega-trends that interact and shape our future.

Pioneered by Global Lead Andries Terblanché, a KPMG Partner and Research Fellow to the Institute of Global

Finance, and a team of data scientists, mathematicians and economists, DRA takes an unprecedented approach to gaining insights into clients' risk environments — by pinpointing central risks and shedding new light on the effectiveness of controls.

DRA is currently being scaled for use across KPMG's global network of member firms.

You can learn more about KPMG's Dynamic Risk Assessment at [www.kpmg.com/dra](http://www.kpmg.com/dra)

## Need more information?

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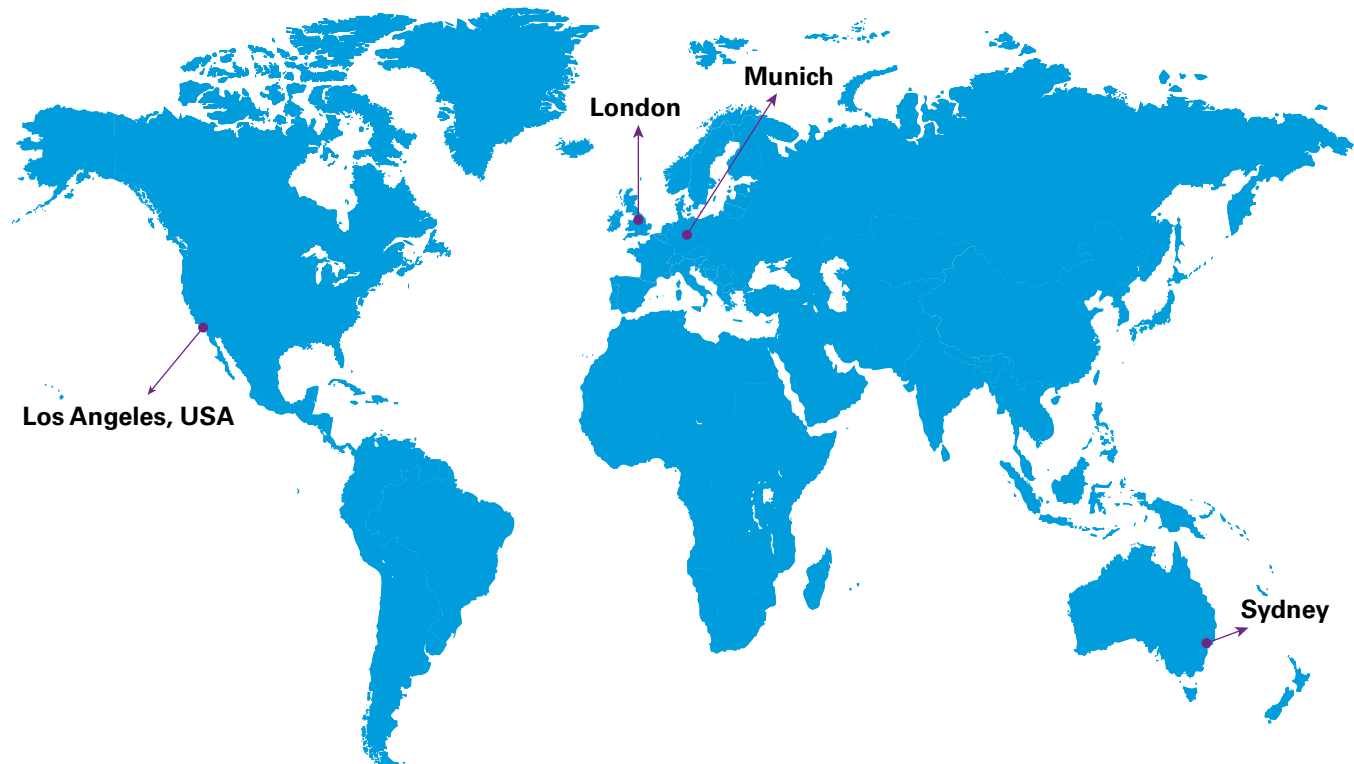
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## Dynamic Risk Assessment Centers of Excellence, serving clients across the globe



\*The Dynamic Risk Assessment (DRA) solution and Advisory services are not permissible for SEC and US audit clients and their affiliates.

# The power of four — article

## Looking beyond conventional depictions of risk based on likelihood and severity, Dynamic Risk Assessment takes a four-dimensional view of risk that allows for the contagion effect of risks — one of the most significant learnings of the Global Financial Crisis.

In these turbulent times, companies need to approach risk assessment with fresh thinking and innovative solutions. Additionally, key stakeholders expect audit professionals to consider emerging business risks and independently assess how these should influence their audit focus.

As global organizations expand their reach beyond traditional geographic and sector boundaries, they not only create new opportunities, but also expose themselves to potential new risks. At the same time, businesses are being influenced by macro-economic, socio-political and other mega-trends not necessarily observed in the past.

In a world where economic volatility is the norm, and the past is no longer an indicator of things to come, disparate events can become inextricably linked. This makes assessing risk exposure especially difficult because risk is unpredictable and contagious, and connected globally within complex organizational structures.

Recognizing that past data and assumptions are severely limited in a world of developing technology,

emerging markets, climate change, growing populations and other mega-trends that interact and shape our future, KPMG's audit professionals are continuously assessing ways of enhancing risk assessment techniques and methodologies.

### A turning point

Have we reached a point in time where traditional, two-dimensional risk management methodologies that focus on single points of risk with high likelihood and severity may be limiting in increasingly complex and global organizations?

Understanding an organization's risk interrelationships can be significantly improved if we find a way to identify potential risk contagion and reveal new insights.

Dynamic Risk Assessment is the key with which those deeper insights can be unlocked. It is an evolution in risk assessment that applies actuarial theories, sophisticated algorithms, mathematics and advanced data and analytics together in a KPMG proprietary (patent pending) methodology to

identify, connect and visualize risk in four-dimensions.

This view takes into consideration risk interconnectedness and the velocity with which risks can impact business operations. Combining the latest in applied science with insights from management and extensive benchmarking, DRA modelling allows our audit professionals to see where risks can be expected to form critical clusters or trigger 'contagion' with other risks.

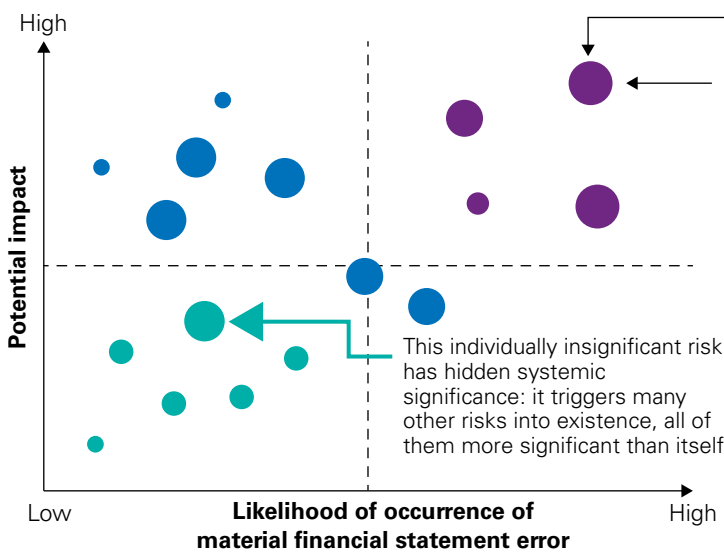
By exposing the expected contagion effects between global and enterprise risks, we objectively measure the genuinely significant threats.

These fresh insights arm our audit professionals with new levels of risk assessment that can help enhance audit quality. They will also be able to provide clients with new insights that they may use to drive more-informed decisions within their organizations about how best to tackle and monitor these threats.

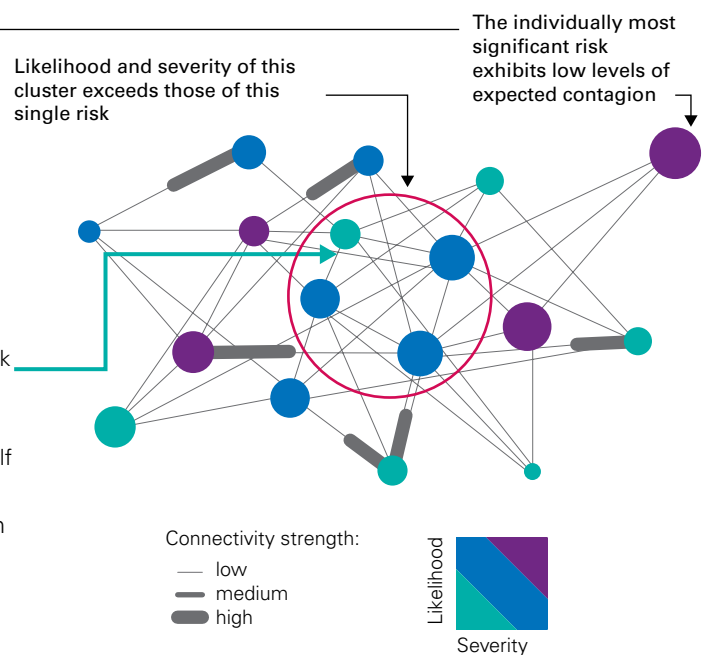
Focusing on systemic business risks helps produce better audit evidence, reveals new insights and enhances audit quality.

# Dynamic Risk Assessment takes a four-dimensional view of risk

## Traditional, two-dimensional risk map



## Inter-connected view



Quality, clients, innovation, talent and community. Focusing on these with passion, purpose and perspective has a measurable impact for member firm clients, our people and the world. ”

# Global Dynamic Risk Assessment Leadership



Andries  
Terblanché

**Audit Partner,  
KPMG Global Lead  
for Dynamic Risk  
Assessment**

**Andries Terblanché** is the Global Lead of Dynamic Risk Assessment, which he conceived, spent 10 years developing and is now scaling for use across KPMG's network of member firms.

Andries joined KPMG in 1984 and was admitted to the partnership in 1994 and has worked in the South African, New Zealand, Australian and UK member firms.

He advises on systemic risk to clients across industries such as banking and finance, insurance, aviation, energy retail, motor vehicle and natural resources.

Andries studied at New York University (Stern Business School), Hong Kong University of Science and Technology, Tsinghua University in China, and the universities of Pretoria and Witwaterstrand in South Africa.

Until his relocation to London in 2016, he was an Adjunct Professor of Risk and Actuarial Studies at the University of New South Wales in Australia, and a guest lecturer at the University of Technology in Sydney.

In 2015, nominated by New York University and the Hong Kong University of Science and Technology to become a member of the international honours society Beta Gamma Sigma in recognition of academic performance and his contribution to business.

In 2016, appointed 1 of 11 Senior Research Fellows to the Institute of Global Finance (IGF), joining a number of Nobel Prize winners and other prominent academics in recognition of his ground-breaking research on systemic risk. The IGF is the leading global academic institution on systemic risk and the subject of interconnectedness.



Roger  
O'Donnell

**Audit Partner,  
Global Head of Data  
and Analytics,  
Audit (D&A)**

**Roger O'Donnell** leads the development and execution of KPMG strategy in using data and analytics (D&A) in audit around the global network.

Roger works with global D&A leaders from KPMG member firms to identify, and help, audit teams create new capabilities in using data and analytics to improve audit quality and effectiveness.

An Audit Partner in the New York office of KPMG in the US, he has served multinational companies for the majority of his career, dealing with the global issues facing clients.

Gaya  
Branderhorst

Director,  
KPMG in the US

### Center of Excellence, US

**Gaya Branderhorst** is a Director at KPMG in the US and the implementation lead for Dynamic Risk Assessment in North and South America. She has a varied background in the for-profit, non-profit, and government sectors in financial services, economic policy, as well as sustainability. While expanding Dynamic Risk Assessment as a practice in the Americas, Gaya has worked with clients that include multinational financial institutions, energy companies, and large manufacturers.

Brendan  
Twining

Audit Partner,  
KPMG in Germany

### Center of Excellence, Germany

**Brendan Twining** is a Partner with KPMG in Germany's Financial Services practice and a senior member of the Global Risk Insights team. He has spent his career working in the financial services industry, and leads industry and client-specific workshops on the interconnection of risk arising from the globalization of the world economy. Brendan's clients have included financial institutions in the insurance, reinsurance, funds management and retail and investment banking industries. He advises them on risk management, mitigation strategies and regulatory compliance requirements.

Chris  
Hall

Audit Partner,  
KPMG Australia

### Center of Excellence, Australia

**Chris Hall** is a Partner with KPMG Australia's Risk & Regulation practice and former board member of KPMG Australia. He is a financial services audit specialist, with significant experience in the banking, finance and funds management industries. He is a member of the Australian Auditing and Assurance Standards Board and the Institute of Chartered Accountants.

# Our relentless focus on audit quality

## Building public trust

### Our culture

Quality — everyone's responsibility 	Global policies 
Culture of consultation 	Ethics & independence 





### Our people

Recruitment 	Continuous development & coaching 
Performance & reward 	Resourcing 

### Our approach

Consistent methodology 	Robust challenge & review 
Effective communication 	Innovative tools & technology 

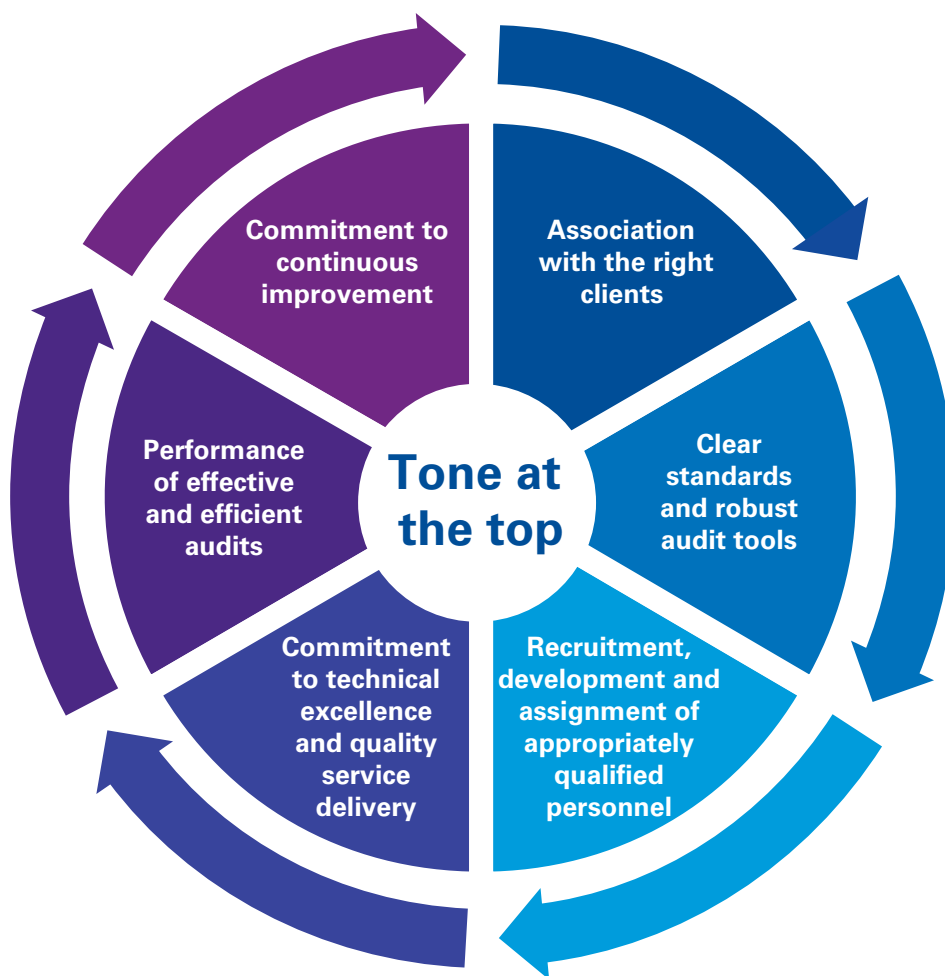
### Our monitoring

Quality & compliance programs 	Root cause analysis 
External feedback & dialogue 	Remedial actions 



# Audit quality framework

A relentless focus on audit quality underpinned by professional skepticism, independence and strong professional capabilities



These are the cornerstones of how we execute our responsibilities

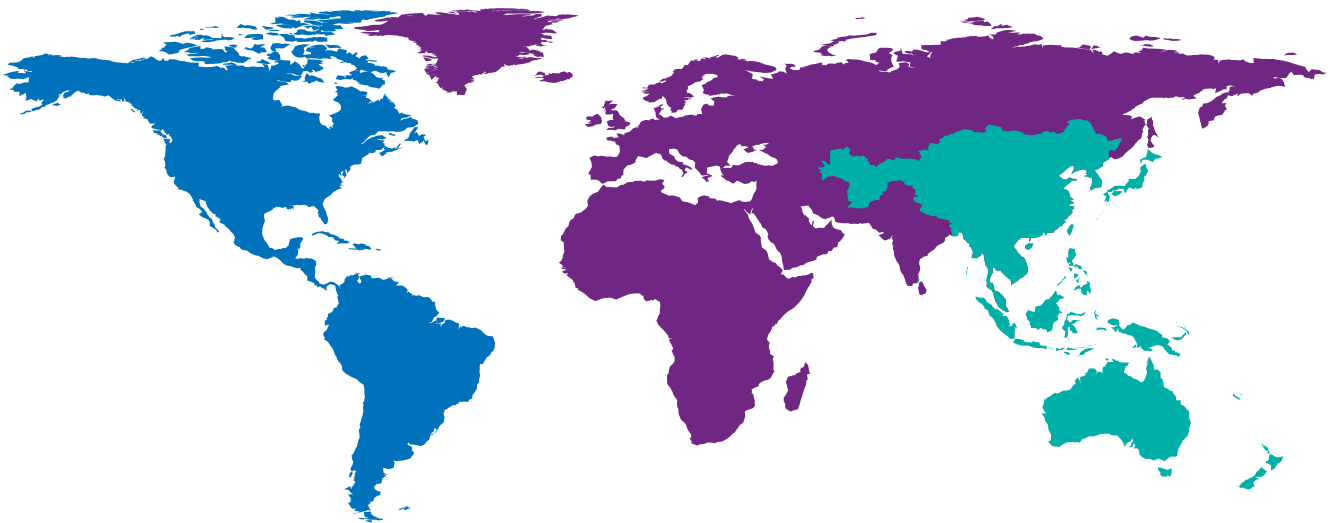
# People

Over 75,000 audit and client service professionals worldwide

Americas  
25%

EMA  
50%

Asia Pacific  
25%



FY17

Partners approximately 4,000

Professionals approximately 71,000

Clients served 20% of Global Fortune 500 companies

The financial information set forth represents combined information of the separate KPMG member firms that perform professional services for clients. The information is combined here solely for presentation purposes. KPMG International performs no services for clients nor, concomitantly, generates any client revenue.

FY17: 1 October 2016 — 30 September 2017



# Our values

**Our values create a sense of shared identity. They define what we stand for and how we do things. Our values help us to work together in the most effective and fulfilling way.**

We **lead by example** at all levels in a way that exemplifies what we expect of each other and member firms' clients.

We **work together** to bring out the best in each other and create strong and successful working relationships.

We **respect the individual** for who they are and for their knowledge, skills and experience as individuals and team members.

We **seek the facts and provide insight** by challenging assumptions and pursuing facts to provide insight as trusted and objective business advisers.

We **are open and honest** in our communication and share information, insight and advice frequently, and constructively manage tough situations with courage and candor.

We **are committed to our communities** to act as responsible corporate citizens by broadening our skills, experience and perspectives through work in our communities.

Integrity is a critical characteristic that stakeholders expect and rely on. Therefore, above all, we **act with integrity** and are constantly striving to uphold the highest professional standards, provide sound advice and rigorously maintain our independence.

# Contact us

Need more information?  
Want to speak with a subject matter expert?

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