# MSCI EMERGING MARKETS MINIMUM VOLATILITY (EUR) INDEX (EUR)

The MSCI Emerging Markets Minimum Volatility (EUR) Index aims to reflect the performance characteristics of a minimum variance strategy applied to large and mid-cap equities across 23 Emerging Markets (EM) countries\*. The index is calculated by optimizing the MSCI Emerging Markets Index, its parent index, in EUR for the lowest absolute risk (within a given set of constraints). Historically, the index has shown lower beta and volatility characteristics relative to the MSCI Emerging Markets Index.

### CUMULATIVE INDEX PERFORMANCE - NET RETURNS (EUR) (APR 2002 - APR 2017)

#### **ANNUAL PERFORMANCE (%)**



Year	MSCI EM Minimum Volatility (EUR)	MSCI Emerging Markets
2016	7.41	14.51
2015	-3.84	-5.23
2014	14.44	11.38
2013	-3.21	-6.81
2012	18.92	16.41
2011	-5.98	-15.70
2010	35.20	27.14
2009	53.34	72.94
2008	-38.33	-50.92
2007	18.45	25.74
2006	16.32	18.20
2005	49.61	54.41
2004	24.20	16.51
2003	29.20	29.63

FUNDAMENTALS (APR 28, 2017)

### INDEX PERFORMANCE — NET RETURNS (%) (APR 28, 2017)

					ANNUALIZED							
	1 Mo	3 Mo	1 Yr	YTD	3 Yr	5 Yr	10 Yr	Since May 31, 2001	Div Yld (%)	P/E	P/E Fwd	P/BV
MSCI EM Minimum Volatility (EUR)	-0.11	6.37	13.85	6.95	7.91	5.70	7.01	10.12	2.77	16.22	14.42	1.95
MSCI Emerging Markets	0.37	7.16	25.30	10.31	10.33	5.53	4.81	7.90	2.42	15.22	12.16	1.64

#### INDEX RISK AND RETURN CHARACTERISTICS (MAY 31, 2001 - APR 28, 2017)

				ANNUALIZED STD DEV (%) 2		SHARPE RATIO 2,3				MAXIMUM DRAWDOWN		
	Beta	Tracking Error (%)	Turnover (%) <sup>1</sup>	3 Yr	5 Yr	10 Yr	3 Yr	5 Yr	10 Yr	Since May 31, 2001	(%)	Period YYYY-MM-DD
MSCI EM Minimum Volatility (EUR)	0.74	6.43	20.38	11.85	10.69	14.24	0.72	0.58	0.48	0.60	29.99	2015-04-27—2016-01-21
MSCI Emerging Markets	1.00	0.00	<b>6.63</b> <sup>1</sup> Last 12	14.44 months	13.10 <sup>2</sup> Based	18.96 I on monthl	0.77 v net retu	0.48	0.29 <sup>3</sup> Ba	0.40 sed on ICE	59.79	2007-10-29—2008-10-27

\* EM countries include: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Russia, Qatar, South Africa, Taiwan, Thailand, Turkey and United Arab Emirates.

The MSCI Emerging Markets Minimum Volatility (EUR) Index was launched on Feb 11, 2013. Data prior to the launch date is back-tested data (i.e. calculations of how the index might have performed over that time period had the index existed). There are frequently material differences between back-tested performance and actual results. Past performance -- whether actual or back-tested -- is no indication or guarantee of future performance.



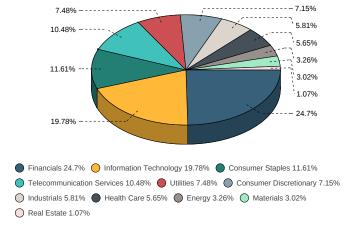
#### **INDEX CHARACTERISTICS**

MSCI EM Minimum Volatility (EUR)	MSCI Emerging Markets					
277	829					
Weight (%)						
1.68	4.31					
0.04	0.00					
0.36	0.12					
0.27	0.06					
	Volatility (EUR) 277 We 1.68 0.04 0.36					

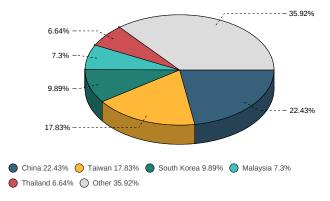
#### **TOP 10 CONSTITUENTS**

	Country	Index Wt. (%)	Parent Index Wt. (%)	Sector
TENCENT HOLDINGS LI (CN)	CN	1.68	3.98	Info Tech
TAIWAN COPR FINL HLDG	TW	1.61	0.09	Financials
TAIWAN SEMICONDUCTOR MFG	TW	1.44	3.55	Info Tech
CHUNGHWA TELECOM CO	TW	1.39	0.29	Telecom Srvcs
BANCO DE CHILE	CL	1.38	0.07	Financials
CHINA CONSTRUCTION BK H	CN	1.31	1.53	Financials
FAR EASTONE TELECOM. CO	TW	1.28	0.09	Telecom Srvcs
PUBLIC BANK	MY	1.27	0.28	Financials
MALAYAN BANKING	MY	1.22	0.18	Financials
GUANGDONG INVESTMENT	CN	1.19	0.10	Utilities
Total		13.76	10.13	

# SECTOR WEIGHTS



# **COUNTRY WEIGHTS**



## INDEX METHODOLOGY

The MSCI Minimum Volatility Indexes are designed to provide the lowest return variance for a given covariance matrix of stock returns. Each MSCI Minimum Volatility Index is calculated using Barra Optimizer to optimize a given MSCI parent index for the lowest absolute volatility with a certain set of constraints. These constraints help maintain index replicability and investability and include index turnover limits, for example, along with minimum and maximum constituent, sector and/or country weights relative to the parent index. Each Minimum Volatility Index is rebalanced (or is re-optimized) semi-annually in May and November. Indexes may also be optimized for various currencies.

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