



# UPDATE

*September 2017*

**LIQUIDITY • LOWER COSTS • TIGHT SPREADS • LARGE PARTICIPANT BASE**

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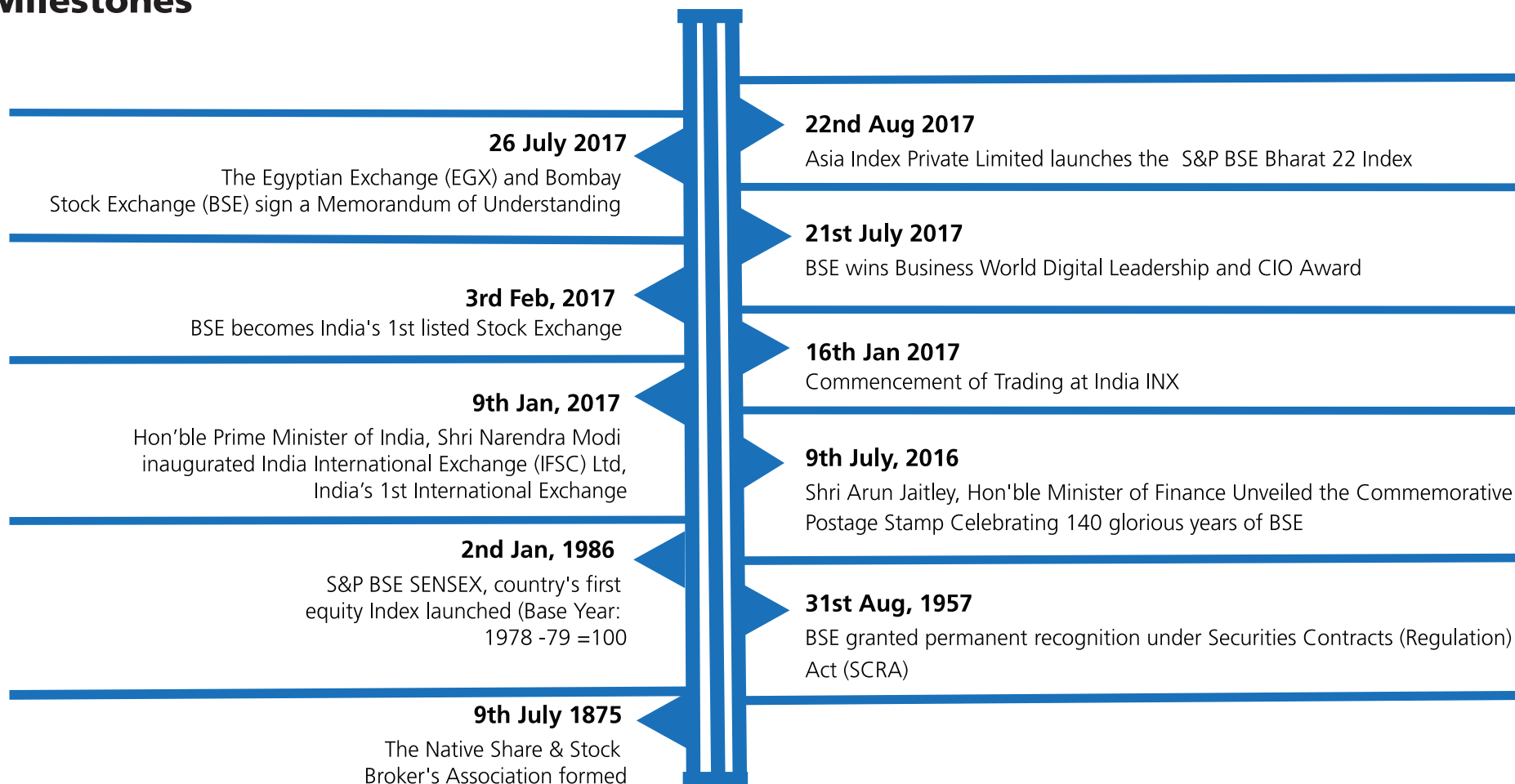
# About BSE



# Evolution of the Exchange

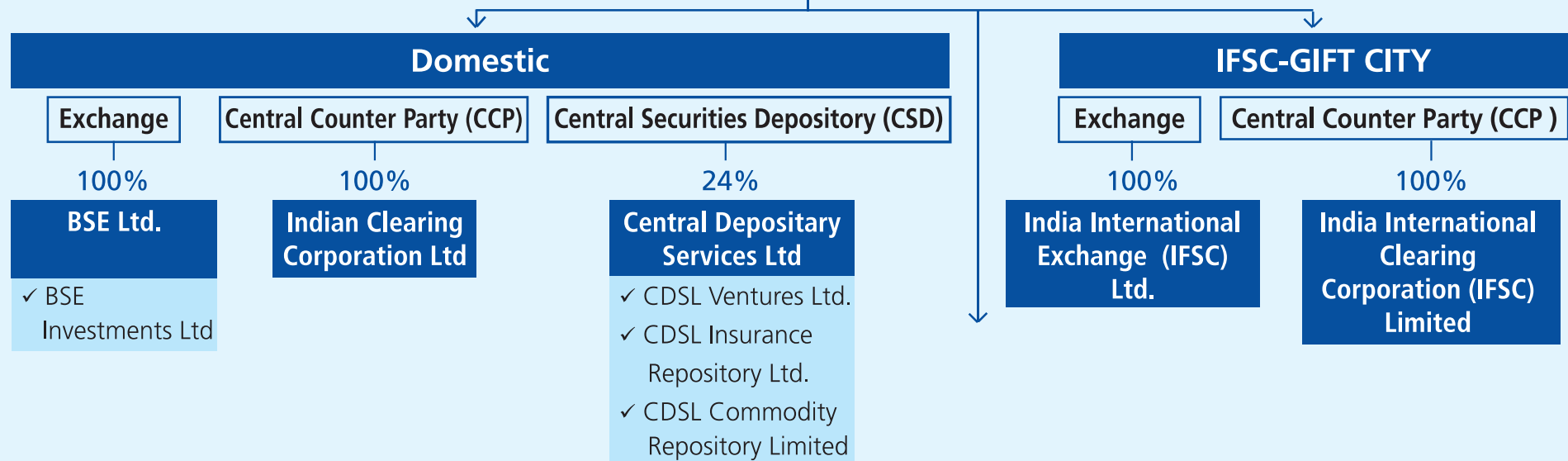


## Milestones

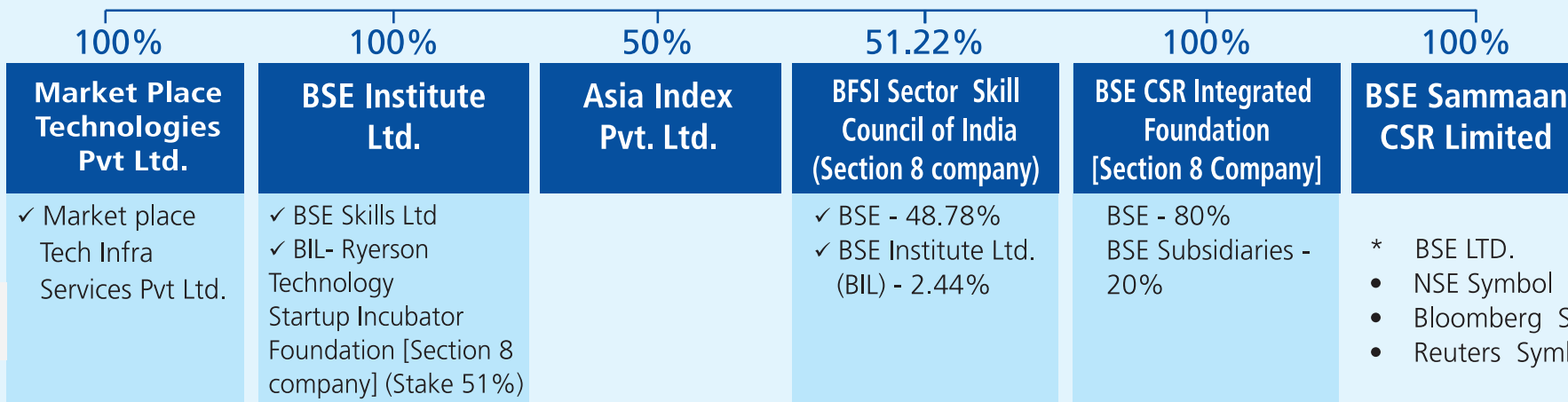


# BSE Group

## BSE\*



## SERVICES




5

## BSE Shareholding Pattern

## BSE & Its Partners

As on 30th June 2017

Category	%
Trading Members and Associates of trading members	37.03%
Promoter & Promoter Group	0
Public	62.97%
Non Promoter- Non Public	0
Shares underlying DRs	0
Shares held by Employee Trusts	0
<b>TOTAL</b>	<b>100%</b>




- Board Presence
- Eurex T7 trading architecture
- 4.75% investment in BSE to expand Asia presence and increase footprint in multiple time zones



- Sensex Licensing to Korea Exchange





- Listing of Sensex



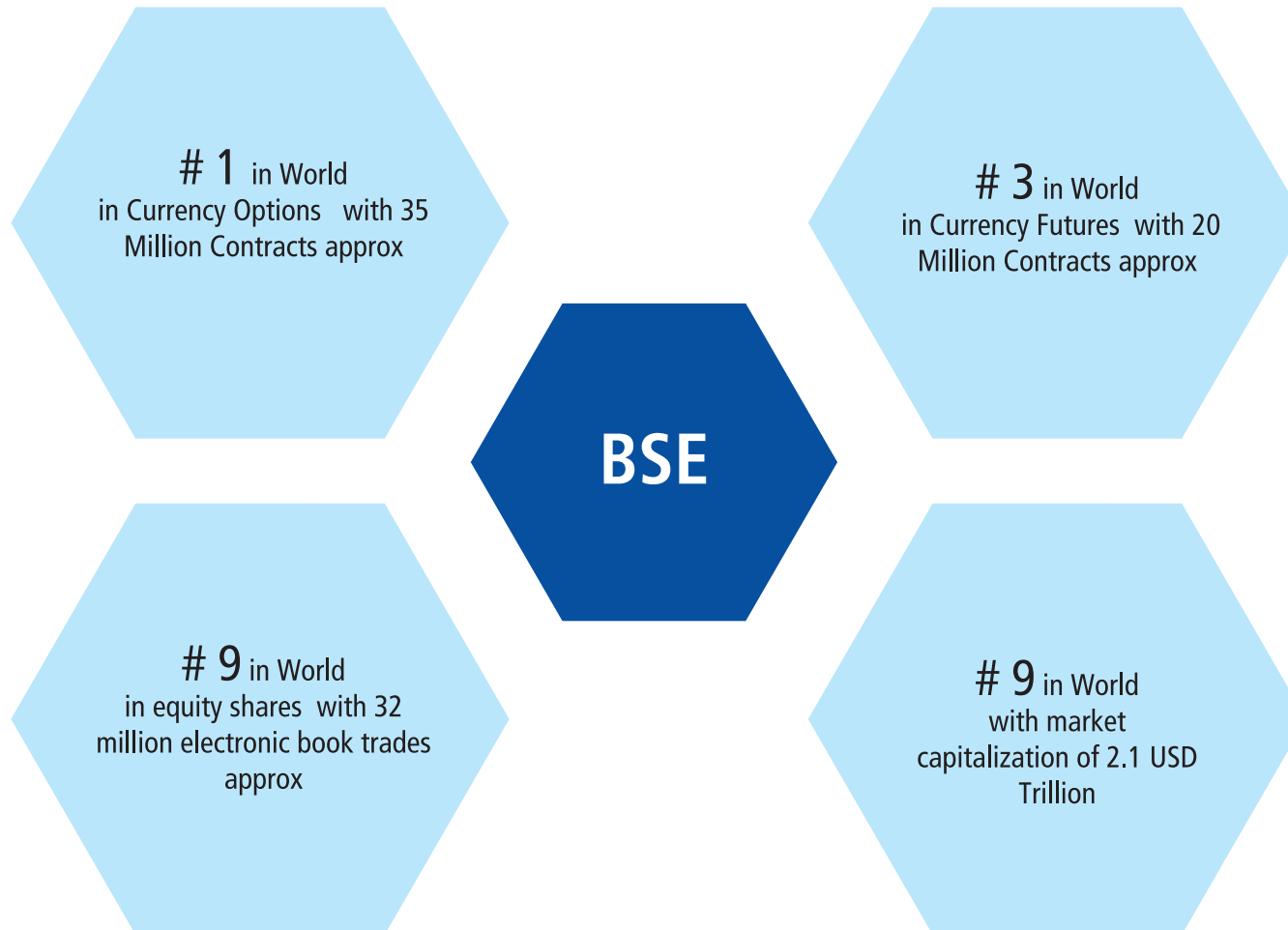
- Calculation & maintenance of all BSE Indices
- Index Product sales abroad
- Partnership on Index products

- 4.75% investment in BSE by State Bank of India as key user and supporter of platform
- 4.98% Investment in BSE by Smallcap World Fund, Inc.



- 4.68% investment in BSE as key user and supporter of platform
- Board Presence

## Global Ranking



Source: World Federation of Exchanges

Data as of July 2017


## Key Highlights

## Growth Strategy









## Board of Directors

	NAME / TITLE	DESCRIPTION
	<p><b>Shri Dharendra Swarup</b> Secretary (Retd.), Finance Ministry Chairman, Public Interest Director</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Dharendra Swarup</b> has over four decades of experience across Finance, Budgeting, Public Debt Management, Public Policy and Pension Reforms. A former Chairman of Pension Funds Regulatory and Development Authority, he has been a career civil servant retiring as Secretary to the GoI, Ministry of Finance.</li> <li>■ Shri Dharendra Swarup was Chairman of the Cash and Debt Management Committee of the Reserve Bank of India from 2000 to 2003. He was the government nominee Director on the Board of SEBI for about 3 years and on a Public Sector Bank for about 5 years. He is one of the main authors of the Fiscal Responsibility and Budget Management ("FRBM") Act.</li> <li>■ Shri Dharendra Swarup was the Member-Secretary of the Financial Sector Legislative Reforms Commission (2011-13) which, inter alia, recommended an Indian Financial Code applicable to the entire financial sector. He was also appointed the Chairman of the Public Debt Management Agency task force and the Financial Redressal Agency Task Force set up by the Ministry of Finance. He is an International Monetary Fund expert on fiscal affairs and has worked in UK, Turkey and Georgia"</li> </ul>
	<p><b>Shri Ashishkumar Chauhan</b> Managing Director &amp; CEO</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Ashishkumar Chauhan</b> is the MD &amp; CEO of BSE (Bombay Stock Exchange), the first stock exchange of Asia. He is one of the founders of India's National Stock Exchange ("NSE") where he worked from 1992 to 2000. He is best known as the father of modern financial derivatives in India due to his work at NSE. He was instrumental in setting up India's first fully automated screen based trading system and first commercial satellite communications network. He also created several path breaking frameworks including Nifty index, NSE certifications in financial markets etc. From 2000 to 2009, he worked as the President and Chief Information Officer of Reliance group and was also the CEO of the cricket team Mumbai Indians in its formative years.</li> <li>■ He currently serves as the Chairperson on the Board of Governors (BoGs) of the National Institute of Technology (NIT) Manipur. He is an Advisor to the Technical Evaluation Committee set up by the Department of Posts for Postal Bank and also a part of several other committees of World Federation of Exchanges ("WFE"), Government of India ("GOI"), Reserve Bank of India ("RBI"), Securities and Exchange Board of India ("SEBI"), Confederation of Indian Industry ("CII"), Federation of Indian Chambers of Commerce and Industry ("FICCI"), Indian Merchants Chamber ("IMC"), India UK council ("UKIBC") etc. He is also associated with several NGOs and education institutions. His quotes and writings have been published in various newspapers, magazines and journals in India and abroad.</li> <li>■ He holds a B Tech in Mechanical Engineering from IIT Bombay and a PGDM from IIM Kolkata. He is a Distinguished Visiting professor at Ryerson University, Toronto, Canada. In recognition of his contribution to industry he has received many awards at National and International levels.</li> <li>■ He is the Chairman of South Asian Federation of Exchanges ("SAFE"), a forum of 28 member entities from the SAARC region and neighbouring countries that aims to provide a platform to share, exchange and promote the technologies and experiences, for the rapid growth and development of capital markets, and regional as well as global integration.</li> </ul>
	<p><b>Dr. Krishnaswamy Kasturirangan</b> Former Chairman, ISRO Public Interest Director</p>	<ul style="list-style-type: none"> <li>■ <b>Dr. Krishnaswamy Kasturirangan</b> is currently the Chancellor of Jawaharlal Nehru University, an Honorary Distinguished Advisor, Indian Space Research Organisation (ISRO), an Emeritus Professor at the National Institute of Advanced Studies and holds the Satish Dhawan Chair for Engineering Eminence instituted by Indian National Academy of Engineering. Earlier, as Chairman of ISRO, he oversaw the space programme in India between the years 1994 and 2003. He was also a Member, Upper House of the Indian Parliament, and subsequently, Member of the erstwhile Planning Commission. His interests include astrophysics, space science and technology as well as science related policies.</li> </ul>



## Board of Directors

	NAME / TITLE	DESCRIPTION
	<p><b>Shri Sethurathnam Ravi</b> FCA, Practising Chartered Accountant Public Interest Director</p>	<ul style="list-style-type: none"> <li>■ <b>Shri S. Ravi</b> is the Managing Partner of Ravi Rajan &amp; Co., Chartered Accountants. He is an Independent Director on the boards of SMERA Ratings Limited, IDBI Bank Limited, Tourism Finance Corporation of India, BOI Merchant Bankers Limited and Aditya Birla Health Insurance Company Limited, to name a few.</li> <li>■ He is a member of the Takeover Panel and Mutual Funds Advisory Committee of SEBI.</li> </ul>
	<p><b>Shri Sumit Bose</b> IAS (Retd.) Former Union Finance Secretary Public Interest Director</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Sumit Bose</b> is Director on the Board of Coromandal International Limited, Tata AIG General Insurance Company Ltd., UTI Asset Management Company Ltd. HDFC Standard Life Insurance Co. Limited. and Oil and Natural Gas Corporation Ltd. Vice Chairman, National Institute of Public Finance and Policy, New Delhi, Chairman, Board of Directors of Vidhi Centre for Legal Policy, New Delhi, an independent legal think tank, a Member, Board of Governors of The Doon School, Dehradun, a Member, Governing Body, Parivaar Education Society, Kolkata, Director Jal Seva Charitable Foundation.</li> </ul>
	<p><b>Justice Vikramajit Sen</b> Former Supreme Court Judge and Chief Justice, High Court of Karnataka Public Interest Director</p>	<ul style="list-style-type: none"> <li>■ <b>Justice Vikramajit Sen</b> retired from the Supreme Court of India on 31st December 2015. Prior thereto practised mainly commercial law in the Courts in Delhi. Presently on the Board of several Corporations. In addition, conducting Arbitrations and giving legal opinion on complicated questions of law. He was appointed as acting Chief Justice and Chief Justice of the High Court of Karnataka.</li> <li>■ Studied in St. Xavier's School in Delhi, followed by a BA (Honours) degree after attending St. Stephen's College, Delhi University. Received Law Degree from the Faculty of Law, Delhi University in 1974.</li> <li>■ He is a Director on the Board of DCM Shriram Limited</li> </ul>




## Board of Directors

	NAME / TITLE	DESCRIPTION
	<p><b>Smt. Usha Sangwan</b> MD, Life Insurance Corporation of India Shareholder Director</p>	<ul style="list-style-type: none"> <li>■ <b>Smt. Usha Sangwan</b>, is the first ever woman Managing Director of Life Insurance Corporation of India since its inception.</li> <li>■ She is the whole time Director of LIC of India, Board Member of General Insurance Corporation of India, LIC Housing Finance Ltd., Axis Bank and Ambuja Cements Ltd. Director on the board of LIC Cards Services Ltd., Associate Director LIC Mutual Fund Trustee Private Ltd. Member of Governing Council of National Insurance Academy, a Trustee of LIC Golden Jubilee Foundation, Chairman of Trust - LIC of India (Regular Part-time employees) Pension Fund and a Member of Policyholder Protection Committee, Executive Committee, Risk Management Committee and Investment Committee of LIC of India.</li> </ul>
	<p><b>Dr. Sriprakash Kothari</b> Gordon Y Billard Professor of Accounting and Finance Massachusetts Institute of Technology, Sloan School of Management Shareholder Director</p>	<ul style="list-style-type: none"> <li>■ <b>Dr. Sriprakash Kothari</b> is Gordon Y Billard Professor of Accounting and Finance at the Sloan School of Management, Massachusetts Institute of Technology. With close to two decades at this premier institute, Dr. Kothari recently completed a six-year stint as Deputy Dean at the Sloan School of Management. He is also faculty director of the MIT-India Program <a href="http://web.mit.edu/misti/mit-india/">http://web.mit.edu/misti/mit-india/</a> and an editor of the world-renowned academic publication Journal of Accounting &amp; Economics. Recently, in the year 2014 Dr. Kothari was a recipient of the American Accounting Association's (AAA) Notable Contributions to the Accounting Literature award. His other awards include honorary doctorates, Doctor Honoris Causa, from the University of Technology, Sydney in May 2013 and University of Cyprus in 2016 and a Distinguished Alumnus Award from Birla Institute of Technology and Science, Pilani, in 2013.</li> <li>■ Dr. Sriprakash Kothari holds a bachelor of engineering degree from the Birla Institute of Technology and Science, Pilani, and has also earned his MBA (PGDM) from one of India's finest institutes, the Indian Institute of Management, Ahmedabad. Dr. Kothari completed his PhD from University of Iowa, United States. His highly-cited research focuses on the US and international financial reporting practices, the pricing of financial information, investment analysis and valuation.</li> </ul>




## Board of Directors

	NAME / TITLE	DESCRIPTION
	<p><b>Shri Roland Schwinn</b> Head of Eurex Asia Deutsche Boerse Group Shareholder Director</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Roland Schwinn</b> is the Head of Eurex Asia, the derivatives market of the Deutsche Boerse Group for Asia, Pacific and the Middle East. He joined Eurex in 2007 as Head of Business Research until he took over the business development role for the Asia Pacific region in July 2007.</li> <li>■ He is also the founding director of Deutsche Boerse Asia Holding and Eurex Clearing Asia and since July 2015 he acts as the Chief Executive Officer of Eurex Clearing Asia in Singapore. From 1994 to 2006 he worked as an Independent Business Consultant for Eurex and the Deutsche Boerse Group in several international projects and in the areas of Marketing &amp; Sales and Institutional Investor Business Development, specializing in Hedge Funds.</li> <li>■ He started his career at the DTB - Deutsche Terminboerse - (the predecessor of Eurex) in 1990 as a Product Development Manager and worked in several positions at DTB, including Strategic Marketing Manager and Client Services Manager until 1994.</li> <li>■ Shri Roland Schwinn studied at the University of Applied Sciences, Trier Germany and the University of Leicester, UK. He is holding a master degree in Business Administration and a Postgraduate Diploma in European Business Studies. Since November 2016, Roland is also a Fellow of Singapore Institute of Management University (UniSIM). Prior to that he was a Research Fellow of Singapore Management University (SMU).</li> </ul>
	<p><b>Smt. Rajeshree Sabnavis</b> Fellow Member of ICAI, Company Secretary Shareholder Director</p>	<ul style="list-style-type: none"> <li>■ <b>Smt. Rajeshree Sabnavis</b> is part of the Direct Taxation Committee with the Bombay Chamber of Commerce where she is a Co-Chairperson. She is also a member of the EU Chamber of Commerce and a director on the Board of BOB Capital Markets Ltd.</li> </ul>

## Management Team

	NAME / TITLE	DESCRIPTION
	<p><b>Shri Ashishkumar Chauhan</b> Managing Director &amp; Chief Executive Officer</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Ashishkumar Chauhan</b> is the MD &amp; CEO of BSE (Bombay Stock Exchange), the first stock exchange of Asia. He is one of the founders of India's National Stock Exchange ("NSE") where he worked from 1992 to 2000. He is best known as the father of modern financial derivatives in India due to his work at NSE. He was instrumental in setting up India's first fully automated screen based trading system and first commercial satellite communications network. He also created several path breaking frameworks including Nifty index, NSE certifications in financial markets etc. From 2000 to 2009, he worked as the President and Chief Information Officer of Reliance group and was also the CEO of the cricket team Mumbai Indians in its formative years.</li> <li>■ He currently serves as the Chairperson on the Board of Governors (BoGs) of the National Institute of Technology (NIT) Manipur. He is an Advisor to the Technical Evaluation Committee set up by the Department of Posts for Postal Bank and also a part of several other committees of World Federation of Exchanges ("WFE"), Government of India ("GOI"), Reserve Bank of India ("RBI"), Securities and Exchange Board of India ("SEBI"), Confederation of Indian Industry ("CII"), Federation of Indian Chambers of Commerce and Industry ("FICCI"), Indian Merchants Chamber ("IMC"), India UK council ("UKIBC") etc. He is also associated with several NGOs and education institutions. His quotes and writings have been published in various newspapers, magazines and journals in India and abroad.</li> <li>■ He holds a B Tech in Mechanical Engineering from IIT Bombay and a PGDM from IIM Kolkata. He is a Distinguished Visiting professor at Ryerson University, Toronto, Canada. In recognition of his contribution to industry he has received many awards at National and International levels.</li> <li>■ He is the Chairman of South Asian Federation of Exchanges ("SAFE"), a forum of 28 member entities from the SAARC region and neighbouring countries that aims to provide a platform to share, exchange and promote the technologies and experiences, for the rapid growth and development of capital markets, and regional as well as global integration.</li> </ul>
	<p><b>Shri V Balasubramaniam</b> Managing Director &amp; Chief Executive Officer (INX)</p>	<ul style="list-style-type: none"> <li>■ <b>Shri V Bala</b> is the founding Managing Director and Chief Executive Officer of India International Exchange IFSC Ltd. (India INX) the first International Exchange from India in GIFT City International Financial Services Centre Special Economic Zone which started its operations from JAN, 2017 and a wholly owned subsidiary of BSE (Asia's first stock exchange). He also holds board position in the following organisations – 1) Central Depository Services (India) Limited – Depository 2) BSE Institute Limited – Education business, 3) BSE Sammaan – CSR Exchange and 4) India International Clearing Corporation IFSC Limited.</li> <li>■ Prior to this, he was the Chief Business Officer of BSE heading the business development encompassing all business segments viz. Equities, Equity Derivatives, Debt, Interest Rate Futures, Currency Derivatives, Mutual Fund Distribution platform and SME platform. In addition to the markets business, he was also responsible for the listings and data business of BSE and managing the entire trading operations and membership operations.</li> <li>■ He has over 25 years of experience in the Capital Markets industry and has previously worked with Reliance Group as Vice President and was also as co-founder of Marketplace Technologies Limited which was acquired by BSE.</li> <li>■ He was also part of the core team involved in setting up the National Stock Exchange of India. He was instrumental in creating the Capital Market segment, Nifty Index creation, setup of NSCCL as the first clearing corporation in India, NCFM certification creation and the Futures and Options segment inter-alia.</li> <li>■ He has Masters in Commerce from the University of Mumbai, Rank holder from the Institute of Cost Accountants of India, Diploma from Institute of Chartered Financial Analysts of India and is a Certified Information Systems Auditor.</li> </ul>
	<p><b>Shri Nehal Vora</b> Chief Regulatory Officer</p>	<ul style="list-style-type: none"> <li>■ <b>Shri Nehal Vora</b> heads the regulatory functions of the exchange including membership compliance, surveillance, inspection, investigation, regulatory communication, investor services, listing compliance, regulatory legal and corporate secretarial. He is a Board member of Indian Clearing Corporation Limited (ICCL) and of Central Depository Services Limited (CDSL). His other Board Memberships include that of National Power Exchange Limited, BSE Investments Limited, BSE Sammaan – CSR Exchange</li> <li>■ He has more than 19 years of experience in the area of legal and compliance. He has previously worked at the Securities and Exchange Board of India (SEBI) for 10 years and as Director, Law &amp; Compliance at DSP Merrill Lynch Ltd heading Broking and Investment Banking Compliance</li> <li>■ Nehal has completed his Bachelors of Commerce from Mumbai University and Master of Management Studies from Narsee Monjee Institute of Management Studies, University of Mumbai</li> </ul>

## Management Team (Contd...)

	NAME / TITLE	DESCRIPTION
	<b>Shri Nayan Mehta</b> Chief Financial Officer	<ul style="list-style-type: none"> <li>▪ <b>Shri Nayan Mehta</b> currently heads all finance, accounting, treasury and taxation functions of the Exchange. He represents BSE as the Senior Vice Chairman on the Executive Board of the South Asian Federation of Exchanges. He represents BSE on the Boards of group companies and joint ventures of BSE and as a member of the Qualified Audit Review Committee of SEBI.</li> <li>▪ He has previously worked at Credit Analysis &amp; Research Ltd, as Joint General Manager (Accounts), CFO at Multi Commodity Exchange of India Limited and has also worked at the National Stock Exchange.</li> <li>▪ He holds a Bachelors in Commerce degree from University of Mumbai. He is a qualified Chartered Accountant as well as a qualified Cost and Management Accountant.</li> </ul>
	<b>Shri Kersi Tavadia</b> Chief Information Officer	<ul style="list-style-type: none"> <li>▪ <b>Shri Kersi Tavadia</b> has over 30 years of experience in the area of Application Systems/ IT Infrastructure development and management, managing all aspects of IT operations in Financial Services, Capital markets and manufacturing companies. He has played a leading role in transforming BSE into the fastest exchange in the country</li> <li>▪ He is instrumental in promoting, adaption of Open Source technologies and has successfully deployed one of the largest Data Warehouse on Open source platform.</li> <li>▪ He has provided technical leadership &amp; architectural vision in implementation of Mission Critical Applications across the organization including IT Infrastructure, Web portals, web based and non-web based customized solutions.</li> <li>▪ He is amongst the Pioneers to implement single-window Multi-Exchange online trading systems to facilitate trading across multiple asset classes.</li> </ul>
	<b>Shri Neeraj Kulshrestha</b> Chief of Business Operations	<ul style="list-style-type: none"> <li>▪ <b>Shri Neeraj Kulshrestha</b> is responsible for Business Development for Equities, Equity Derivatives, Debt, Interest Rate Futures, Currency Derivatives, Mutual Fund Distribution platform and SME platform. He is also responsible for Trading Operations and Development, Listing Sales and Operations and Membership Operations</li> <li>▪ He has about 27 year experience in Capital markets, which includes Securities Markets and General Insurance.</li> <li>▪ Prior to BSE he was an Executive Director in Morgan Stanley India for 10 years. He was earlier with National Stock Exchange and has managed various functions like Trading Operations, Inspection and Investigation, Futures and Options Clearing and Trading. He was also the CEO of India Index Services Ltd. and Dotex International Ltd..</li> <li>▪ He has completed his Bachelors in Computer Science from Delhi University and a MBA (Finance) from Indore University.</li> </ul>



# Lines of Business

Listing Business		Market Business				Data Business
Primary Market	Secondary Market	BSE Star Mutual Funds platform	New Debt Segment	Membership	Post Trade	Information Products
<ul style="list-style-type: none"> <li>▪ IPO</li> <li>➢ EQUITY</li> <li>➢ SME</li> <li>➢ BOND</li> <li>▪ FPO</li> <li>▪ BSE Hi-Tech</li> <li>▪ Sovereign Gold Bonds</li> <li>▪ Mutual Fund-NFO</li> </ul>	<ul style="list-style-type: none"> <li>▪ Equity Cash</li> <li>➢ Small &amp; Medium Enterprises</li> <li>➢ Offer to Buy</li> <li>➢ Offer for Sale</li> <li>➢ Close Ended Mutual Funds</li> <li>➢ Corporate Bonds</li> <li>➢ Government Securities and Sovereign Gold Bonds</li> <li>▪ Equity Derivatives</li> <li>▪ Currency Derivatives</li> <li>▪ Interest Rate Futures</li> <li>▪ Securities lending &amp; borrowing (through ICCL)</li> <li>▪ ETF</li> </ul>	<ul style="list-style-type: none"> <li>▪ Order placement platform</li> </ul>	<ul style="list-style-type: none"> <li>▪ OTC Corporate Bond Reporting CP/CD</li> <li>▪ Trade Repository</li> </ul>	<ul style="list-style-type: none"> <li>▪ Trading Members</li> <li>▪ Clearing Members</li> <li>▪ Self-clearing Members</li> </ul>	<ul style="list-style-type: none"> <li>▪ Clearing and Settlement Services through ICCL</li> <li>▪ Depository Services through CDSL</li> </ul>	<ul style="list-style-type: none"> <li>▪ Market Data</li> <li>▪ Corporate Data</li> <li>▪ Corporate Action through SWIFT</li> <li>▪ End of Day Products</li> <li>▪ Historical Data</li> <li>▪ Macro economic Indices</li> </ul>

## Supporting Business

Technology	Index Products	Training	Corporate Social Responsibility
<ul style="list-style-type: none"> <li>▪ IT services &amp; solutions</li> </ul>	<ul style="list-style-type: none"> <li>▪ S&amp;P BSE SENSEX</li> <li>▪ Sectoral Indices</li> <li>▪ Sustainability Indices</li> <li>▪ Thematic Indices</li> <li>▪ Fixed Income Indices</li> </ul>	<ul style="list-style-type: none"> <li>▪ Training</li> <li>▪ Certification</li> <li>▪ Skill Development</li> <li>▪ Technology Incubator &amp; Accelerator Program</li> </ul>	<ul style="list-style-type: none"> <li>▪ BSE CSR Samman</li> </ul>



# Listing Business

**BSE**  
EXPERIENCE THE NEW



## Total Fund Mobilization through Public Offer (Equity and Debt)

- Total Rs. 79,817 cr ( \$12.47 billion ) have been raised in Indian Markets through Stock Exchanges in India since April 2016
- Rs. 53,673 crs ( \$8.38 billion) have been raised at BSE since April 2016
- BSE is the market leader with 67% of total funds raised
- BSE has the largest number of listed companies in world

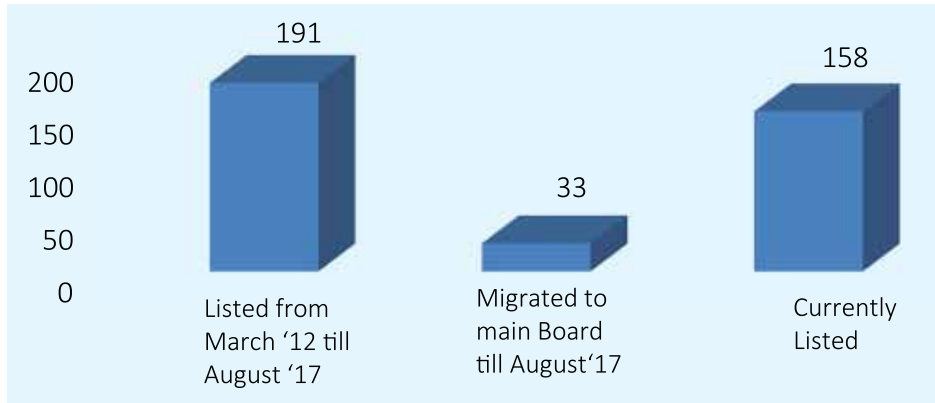
5100  
Companies listed  
with Equities

### Leadership in Debt Market

- BSE is the preferred choice for listing Privately Placed Debt Instruments (PPDI). In FY16-17, BSE has listed 2353 Instruments with an amount totalling to Rs.420,660 crore vis-a-vis 1200 instruments on other Exchange.
- In F.Y. 2017-18 (till August), Exchange has listed 840 instruments with an amount totalling Rs. 1,90,677 crores vis a vis 523 instruments on the other Exchange.
- In F.Y 2016-17, 15 Debt Public issues have tapped the market . BSE is the Designated Stock Exchange for the 13 public issues with 7 issues listed only on BSE.
- In F.Y 2017-18 (till August), 4 Debt Public issues have tapped the market, BSE is the Designated Stock Exchange for all public issues out of which 3 issues were listed only on BSE.

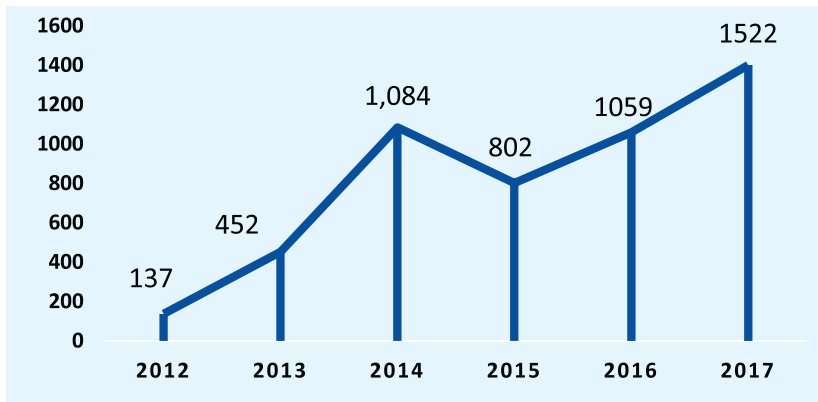
# BSE SME – India’s Biggest SME platform

## Companies on BSE-SME Platform



- BSE is the first stock exchange in India to receive approval from SEBI on 26th September 2011 to launch SME Platform.
- SME IPO Index was launched on 14th December, 2012 aimed at tracking the companies listed on SME platform with a Base value of 100. As on 31st August, 2017 its value was 1,522
- The Platform facilitates capital raising by small and medium enterprises including start-up companies which are in their early stages of growth. It also provides easier entry and exit options for informed investors like angel investors, VCFs and PEs etc. and equity financing which lowers the debt burden leading to lower financing cost and healthier balance sheet.
- Total Market Capitalization of 158 companies –Rs.10,571 Crs
- Total Market Capitalization of 33 companies Migrated to main Board – Rs.7,220 Crs.

## SME IPO INDEX



**73% of Market Share in terms of number of SMEs listed**

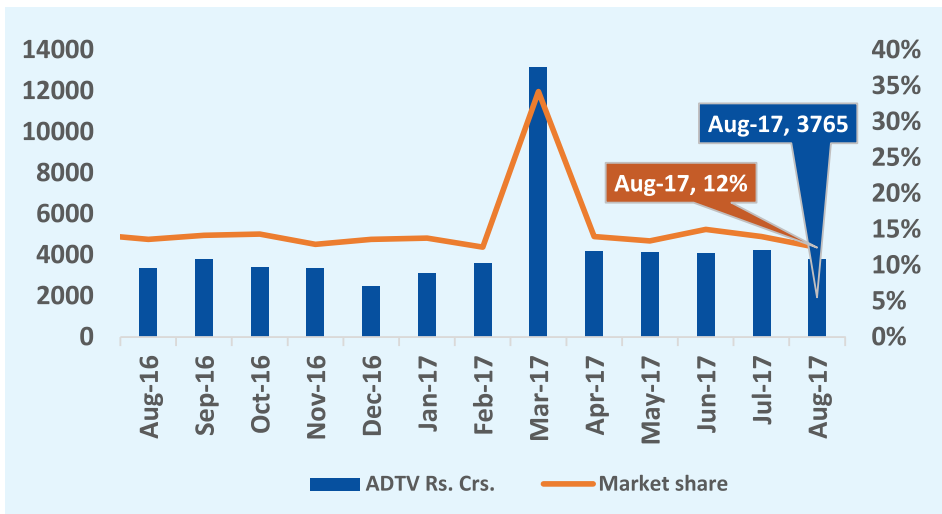


**Market  
Business**

**3SE**  
*EXPERIENCE THE NEW*

# Equity Cash Market

**Avg Daily Turnover (Rs. Crs.) & Market Share%**



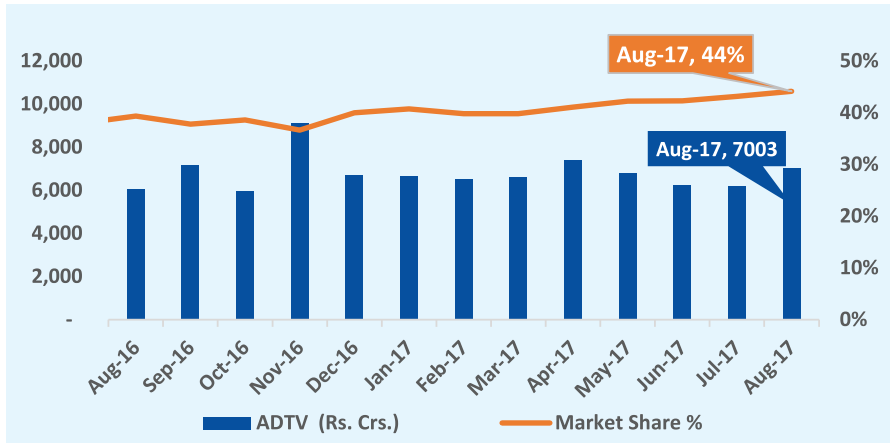
**Revision in transaction charges of equity segment w.e.f August 1, 2017**

Slab-wise Rates	
Monthly Trades Count	Rate (in Rs.) per Trade
0 – 1,00,000	1.5
1,00,001 – 3,00,000	1.25
3,00,001 – 5,00,000	1
5,00,001 – 20,00,000	0.75
> 20,00,000	0.5

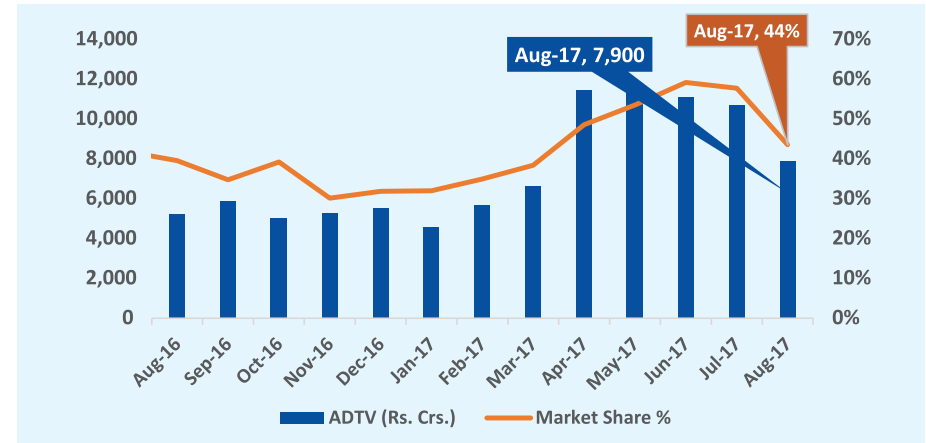
\*An active order resulting in multiple execution shall be charged only once.

# Currency Derivatives

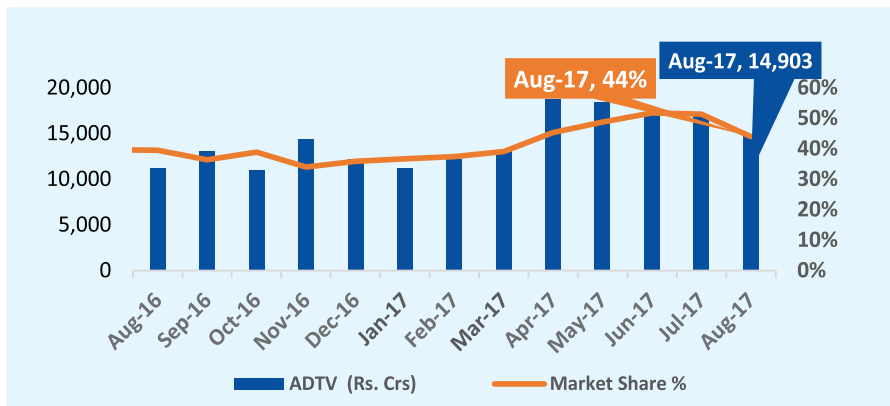
## Currency Futures



## Currency Options



## Combined Turnover & Market Share



## Competitive Advantage

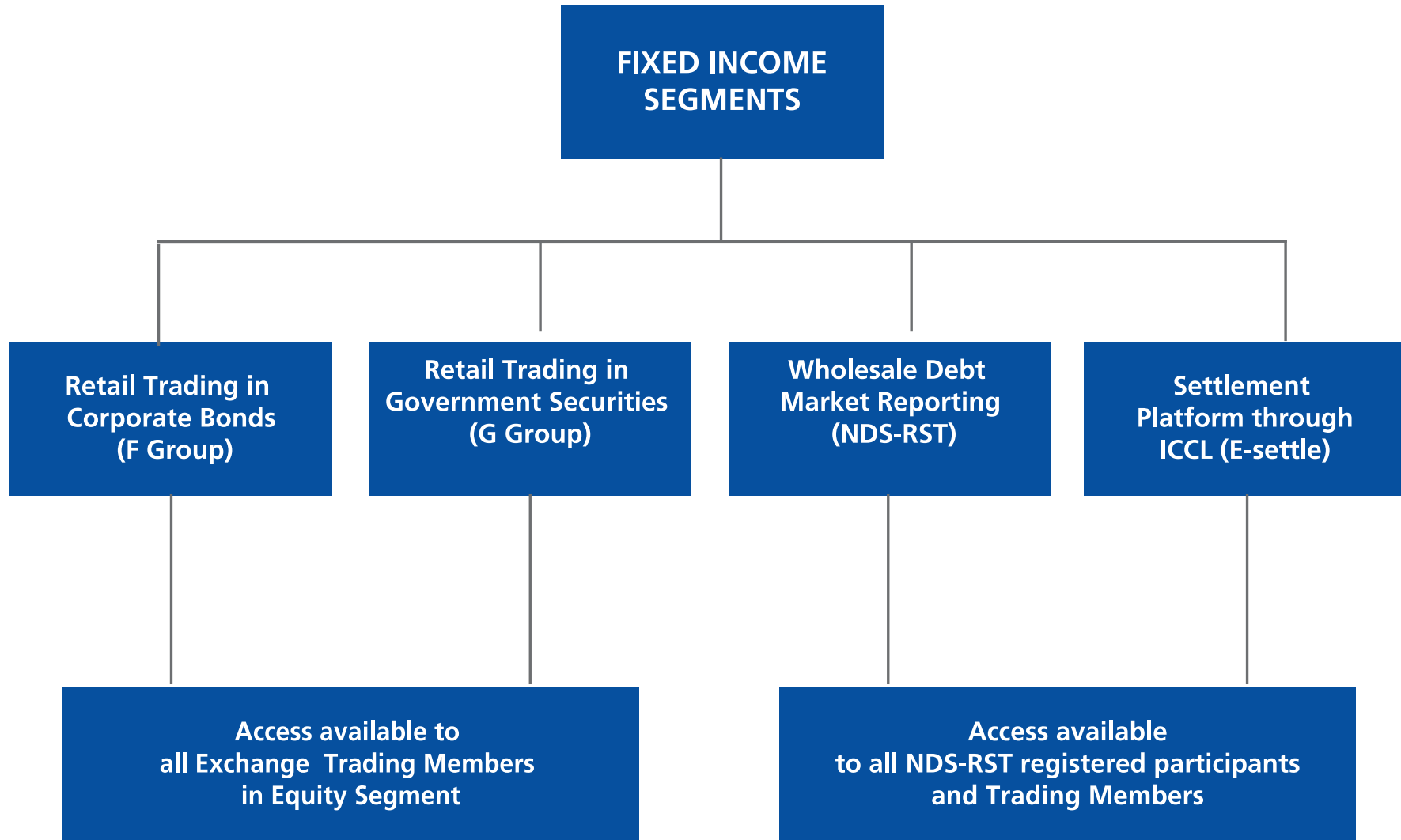
Currency		BSE	NSE	MSEI
Exchange Transaction Charges (Rs. / Per Cr.)	Futures	22	90	90
Cost Saving @ BSE up to	75.56%			
Exchange Transaction Charges (Rs. / Per Cr.)	Options	2000	4000	2500
Cost Saving @ BSE up to	50%			

## Sovereign Gold Bond

Tranche	Total No. of Members	Total No. Of Bids	Volume in Kgs	Value in Rs./Cr
4th	161	3931	159	50
5th	214	4770	150	44
6th	206	6772	203	60
7th	173	3545	103	30
8th	132	4779	112	33
9th	137	3811	116	32

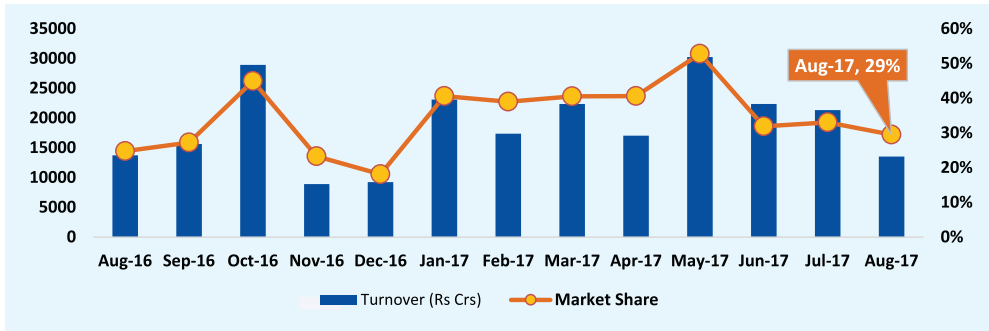
**BSE is one of the largest distributors of Sovereign Gold bonds**

# Fixed Income Segments Overview

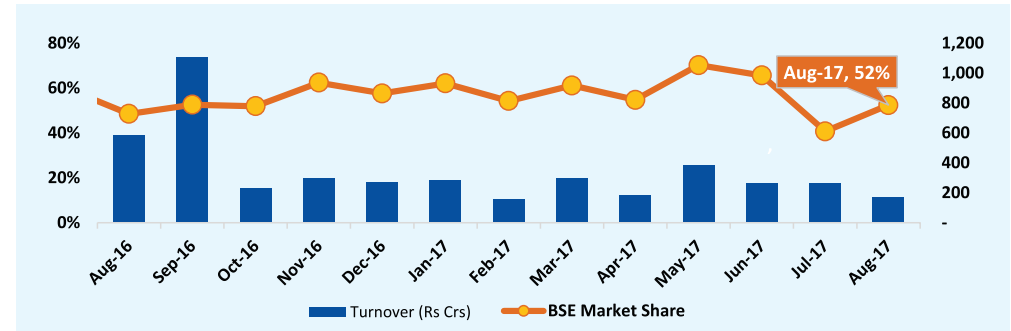


# Fixed Income Segments

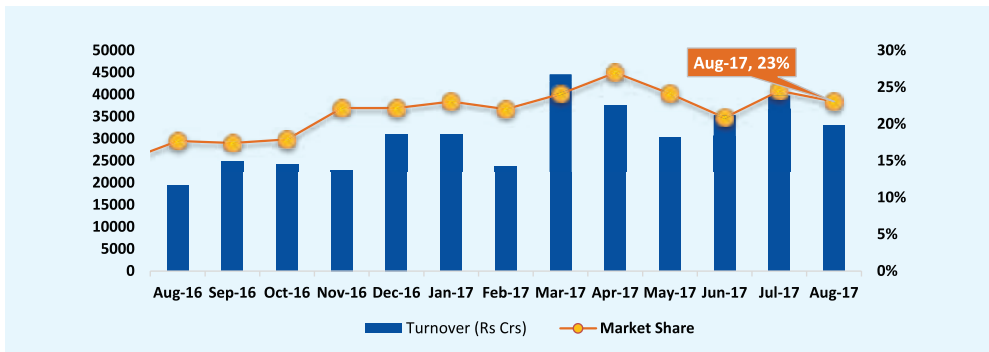
### G-Sec Reporting



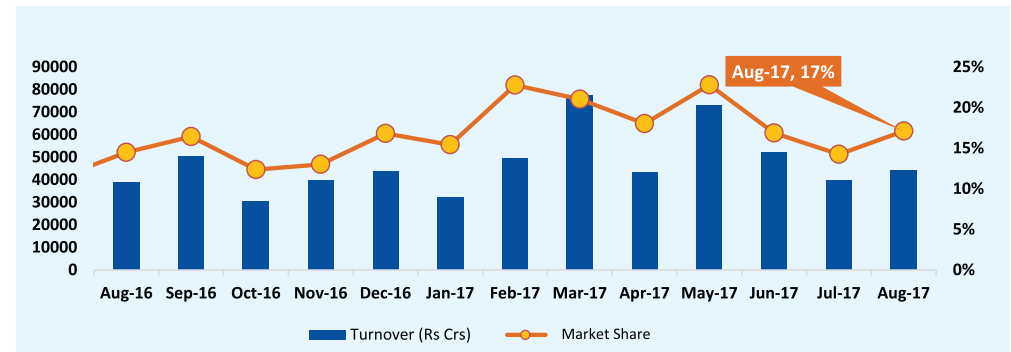
### Retail Trading in Corporate Bonds



### Corporate Bond Reporting



### ICCL Settlement

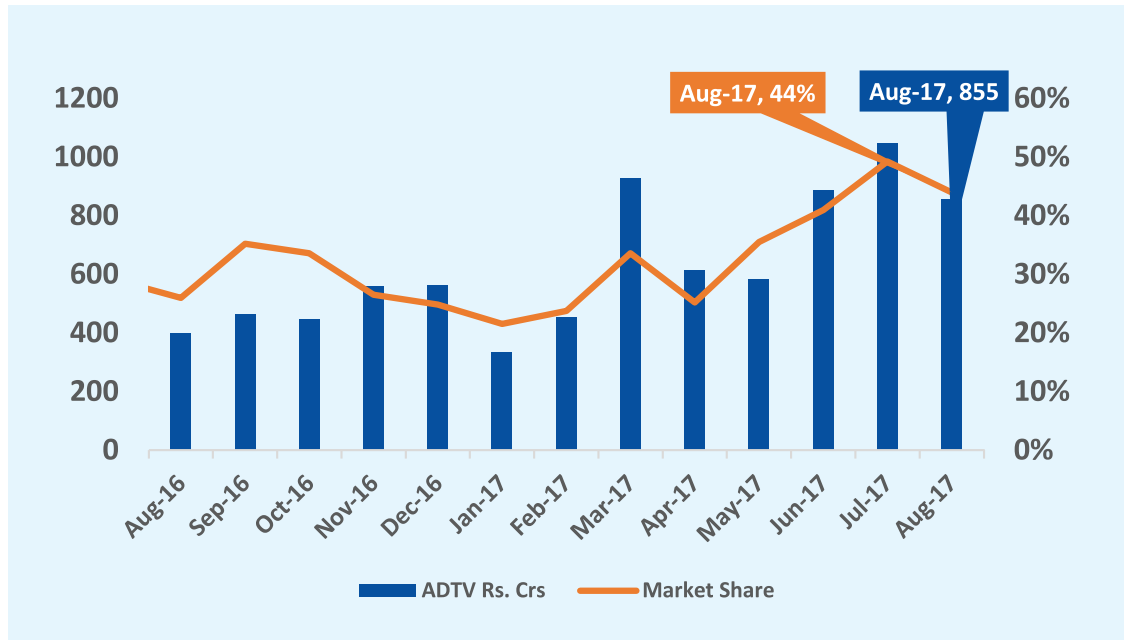


- BSE's Market share in Retail trading of Corporate Bonds was 52 % for the month of August 2017.
- Market Share for reporting volumes in G-secs in August 2017 was 29% and Market Share in Corporate Bonds was 23% in the month of August 2017.
- The average Market share of BSE for total settlement of Corporate Bonds and CP-CD was 17% in the month of August 2017



# Interest Rate Derivatives

## Turnover & Market Share %

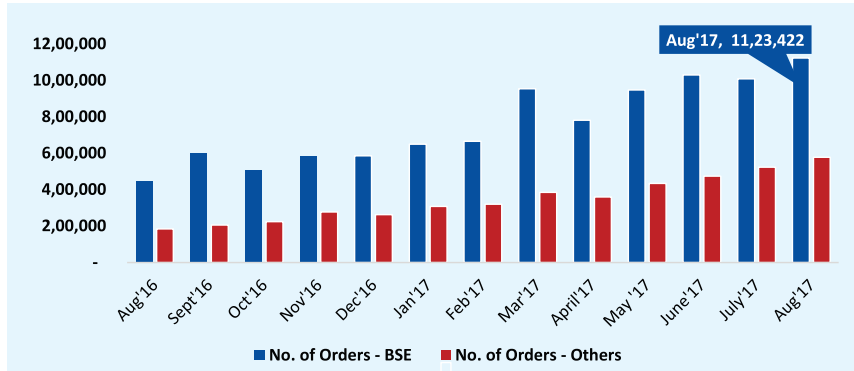


Transaction Charges Rs.10 per Crore

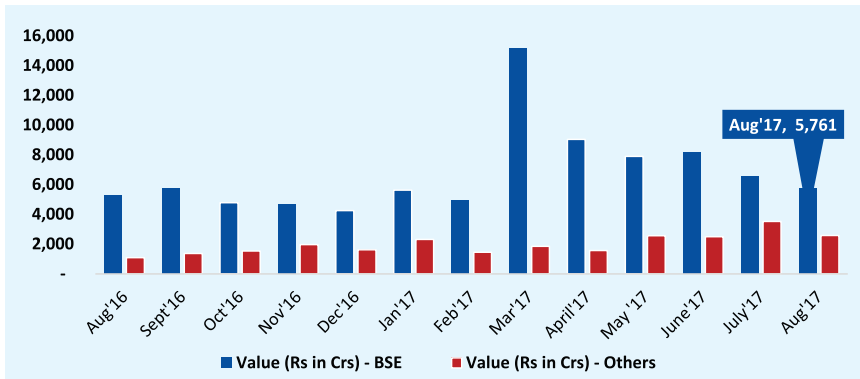
**44%**  
Market Share% for the Month of August '17

# StAR MF-India's largest online MF Distribution platform

## No. Of Orders



## Value (Rs. Crs.)



**Market Share of BSE-  
Star MF is 70%**



For Registration Process, refer: <http://ir.bseindia.com/mfdforms/members/LoginMF.aspx?expandable=0>

## PLATFORM FEATURES

- Completely digital- Demat and Non Demat /Mutual Fund transactions, while facilitating the benefits of Physical mode
- 24x7 order acceptance
- SGB enabled for MFDs
- 6 day order holding facility
- Paperless SIP
- Any day STP and SWP
- Paperless bank Mandate

## CONNECTIVITY & USPs

- Unique overnight investments framework
- Multi-mode of platform access
- Completely digital and REAL Time Investors registration / onboarding
- Widely accepted by NDs / Custodians / Brokers / IFA Platform / New age Digital Distributors / IFAs/ RIAS
- E-submission and online MFD Registration

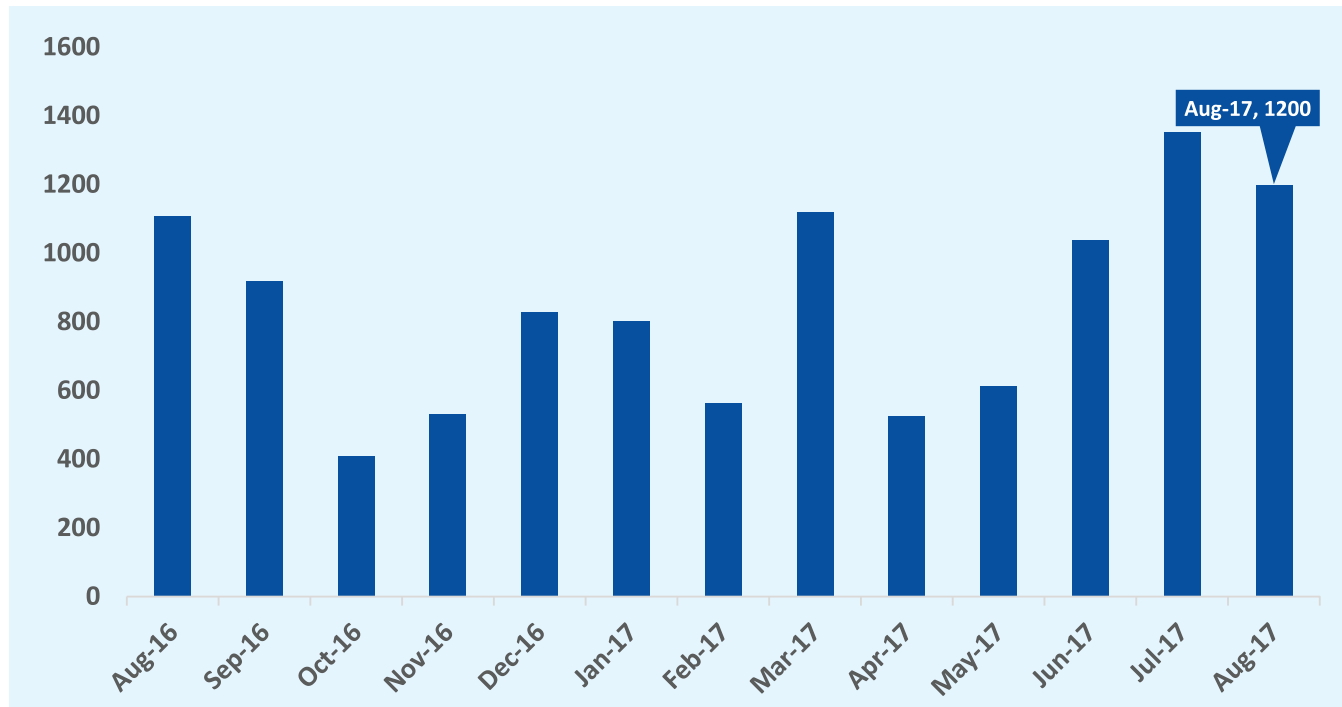
## PLATFORM STATISTICS

- Over 30 lakh orders transitioned aggregating to Rs. 25645 Crs on BSE StAR MF Platform for Q1 FY 17-18
- Over 66 Lakh orders transitioned aggregating to Rs 75,000 Crs on BSE StAR MF Platform during FY 16-17
- Market share of 70% ,processing over 11.8 lac orders and adding 95,000 SIP's every month.
- In August ,2017, transacted volume through BSE StAR MF in liquid was Rs.2678 Crs and nonliquid was Rs. 3083 Crs  
BSE StAR MF is the largest digital platform in MF Industry

Data as of August 2017

# Exchange Traded Funds

Turnover (Rs Crs.)

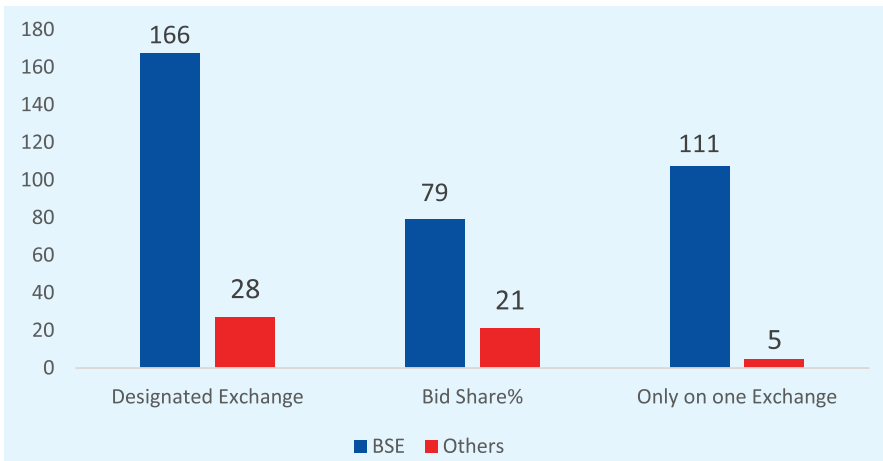


- Exchange traded fund is a security that tracks an index, a commodity or a sector like an index fund or a sectoral fund but trades like a stock on an exchange
- It is similar to a close ended mutual fund listed on stock exchanges
- BSE in its effort to bring greater participation for retail investors in the Indian landscape has tied up with market makers for ETF's
- 51 ETF listings on BSE as on July 2017\*

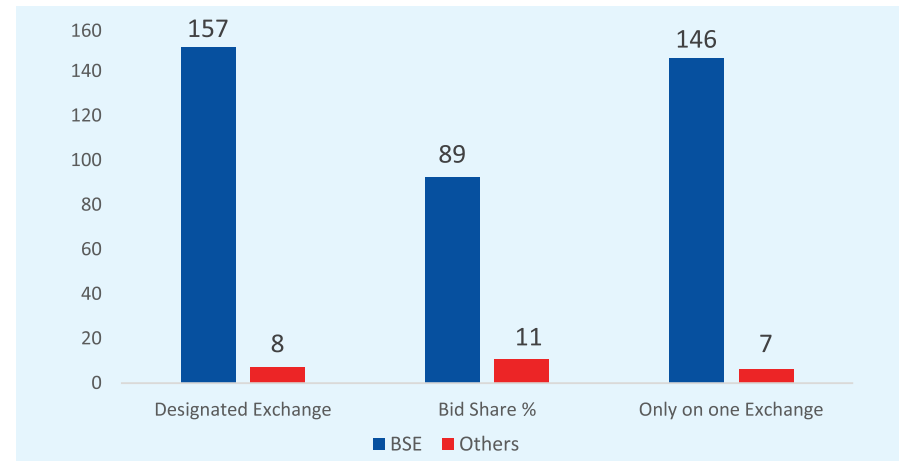
\*Source: World Federation of Exchanges

# Capital Raising Platforms - OFS/OTB/ BOND

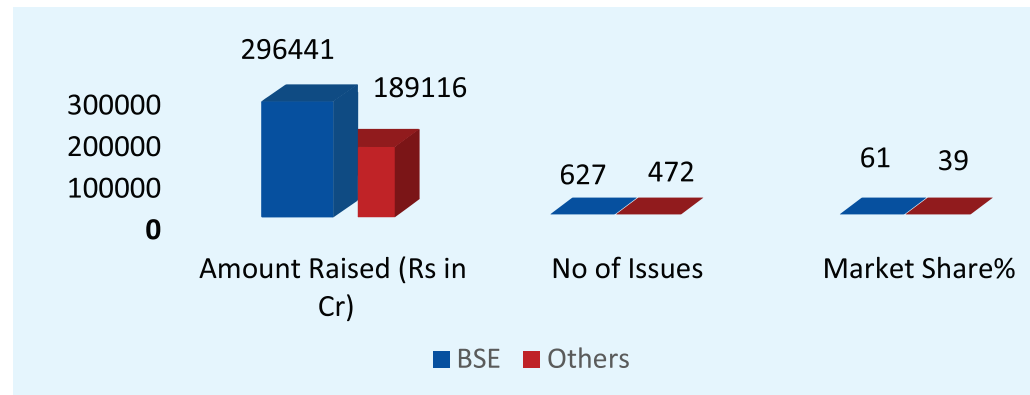
**BSE's Leadership in OFS\***



**BSE's Leadership in OTB\*\***



**BSE's Leadership in BSE BOND\*\*\***



\* Since Feb 2012  
 \*\* Since July 2015  
 \*\*\* Since July 2016



# Data Business

**3SE**  
EXPERIENCE THE NEW

## Data Business Product

### Market Data

- Equity Level 1 – Real-time & 1 minute Snapshots
- Equity Level 2 – Real-time
- Indices – Real-time & 1 minute Snapshots
- Derivatives (Equity , Index , Currency & Interest Rate Derivatives) – Real-time

### Corporate Data

- Corporate Announcement
- Financial Results
- Shareholding Pattern
- Corporate Action - through SWIFT

### End of day or Historical

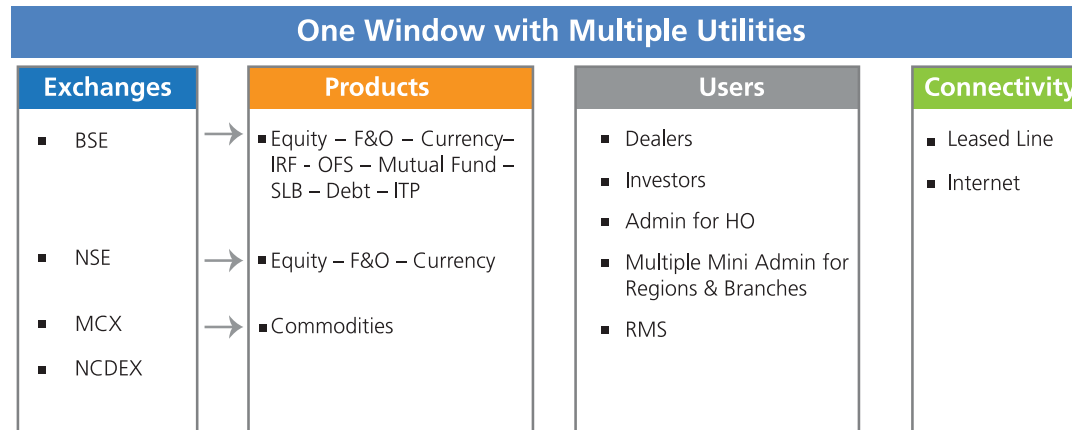
- Quotation files
- Annual report
- Daily Bulletin
- Sector Classification
- Trade and Order book data



**Technology  
Initiatives**

**3SE**  
*EXPERIENCE THE NEW*

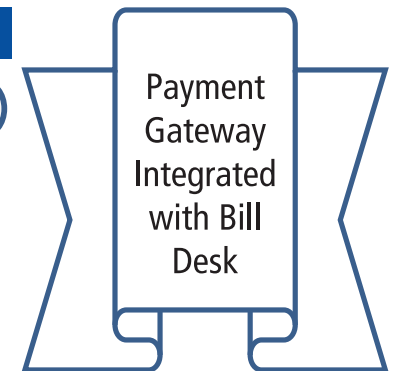
# Bolt plus -Member Trading interface



## Application for Desktop and Mobile

- Single window for Multi Exchange Segments with all Asset Class.
- Combined Market Depth.
- Facility of After Market Orders (AMO).
- Real Time Margining.
- Supports Timer Based and Single Click square Off.
- Top Gainers / Top Losers - Most Active by VOLUME / VALUE.
- Corporate Action Information.
- Customized short cut keys - predefined Key Mapping Styles of ODIN-NOW
- NEWS Plus with RSS feeds and Twitter.
- Customized Add on of Web links.

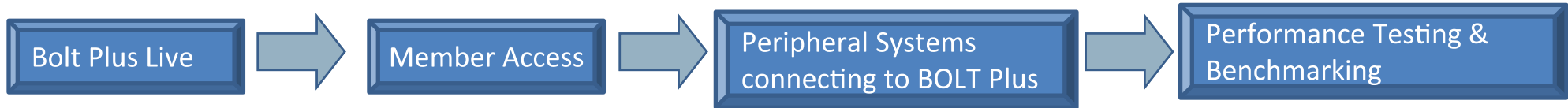
- No IT infrastructure cost to the Member.
- Completely Hosted Application.
- Single Application for all Users Types .
- Trade commencement in one day.
- Real time support services.



Bolt+on web (BOW)- Free of cost for all Members



# BSE's -World Class Trading Infrastructure



- Products available for trading
  - Currency Derivatives – 29th November, 2013
  - Interest Rates Futures – 28th January, 2014
  - Equity Derivatives – 10th February, 2014
  - Equity – 7th April, 2014

- API based access -
  - Through existing IML API
  - Advanced High performance APIs (ETI, MDI/EMDI,EOBI)

- Reference Data, Risk Management, Surveillance, Clearing & Settlement, Data Warehouse

- Latency : < 6  $\mu$ s (Gateway in to Gateway out)
- Network latency for Colo users – 10  $\mu$ s
- Throughput Capacity: 5 lacs order per second
- Scalability: Horizontally scalable by adding partitions



## Technology Programme –Co-location facilities

### Fastest Co-location

- BSE is the fastest Exchange in the world with a speed of 6 microseconds.
- BSE provides the fastest Co-location service in India with round trip network latency of less than 10 microseconds.
- At BSE Co-location, response for an order has round trip latency of about 16 microseconds (including 10 microseconds of Co-location network latency).
- Market access across Equity, Equity Derivatives and Currency Derivatives segments.
- Extension of Precision Time Protocol (PTP) from BSE's Grandmaster clock to the Co-location enables members to synchronize with the Exchange clock.
- Equitable distribution of market data to all members by usage of same length cables for all members.
- Full order book multicast (EOBI) is provided to Co-location members at no cost.
- State-of-the-art Data Centre services from NTT – Netmagic.

### BSE Co-location Data Centre

#### Key technical highlights are:

- 10 Gbps Fibre optic cable connection with BSE trading system with full redundancy
- 24 X 7 operations support
- 24 X 7 High security zone
- Uninterrupted Power Supply with DG back up
- ITIL and ISO 27001 compliant
- FM200 Fire suppression facility
- Market Data feed from Thomson Reuters Electron network
- 99.999% uptime

## Technology Programme-Software and Hardware

### For services opted by member, BSE bears the cost on behalf of the member for;

- The software license cost for ALGO trading and market access
- The infrastructure cost on Co-location rack space
- The ALGO trading servers at Co-location
- The internet connectivity between Co-location and member's office

### ALGO Trading

Algo Trading software is available from following vendors for quoting and market making in Eq. Derivatives including auto hedging capabilities across Exchanges and Segments:

- Greeksoft Technologies Pvt. Ltd
- uTrade Solutions Pvt. Ltd
- Thomson Reuters International Services Pvt Ltd.
- Symphony Fintech Solutions Pvt. Ltd.
- Resolute Softech

### Cost Comparison

Service	BSE	Other Exchange
Co-location Network Bandwidth	10 Gbps fiber optic network	10 Gbps fiber optic network
Roundtrip Latency (in $\mu$ sec): Exchange Response Time	6	500 #
Roundtrip Latency (in $\mu$ sec): Colo Network*	10	500 #
Roundtrip Latency (in $\mu$ sec): Exchange Response Time + Colo Network Latency	16	1000 #
10G Switch at Member Rack	Not Mandatory	Mandatory
10G NIC Card from Exchange per member	2 Solarflare Cards (SFN7322F)	NIL
Additional cost to member for 10G migration	NIL	INR 10 – 20 Lakhs
Full Racks	Free	One Time Cost : Rs. 1 Lakh plus AMC : Rs.12 Lakhs
Half Racks	Free	One Time Cost : Rs. 50,000 plus AMC : Rs.6 Lakhs
Quarter Racks	Free	Not Available
Servers	Free	Not Available
Algo software	Free	Not Available
Interactive connectivity cost	Free	<b>Annual Cost per connection</b> Rs.10 Lakhs for 400 messages/sec
Market data connectivity cost	Free (including EOBI feed)	<b>TBT feed Annual Cost per feed</b> Full Rack : Rs.1.00 Lakh / Half Rack: Rs.1.00 Lakh

\*10G network with Solarflare card SFN7322F with Onload # Based on market feedback

## Sponsored Market Access

### Implementation of 'Sponsored Market Access' (SMA) at Co-location

- SMA is a software distribution model in which applications are hosted by a service provider and made available to customers over a network.
- Free of cost rack space is allocated by BSE to the SMA Service providers to install their algo trading application server in BSE Co-location. The members can connect to this SMA algo server at Co-location via Internet.
- The algo strategy parameters can be triggered from the member front-end application and sent to the SMA algo server at Co-location.
- The corresponding algos will generate orders to be sent to BSE trading system through Co-location network.
- The algo orders will be sent to the BSE Trading system via the high speed Co-location gateway for minimum latency.
- Members can execute orders over high speed Co-location network without installation of any infrastructure at Co-location by the members.

### Advantages

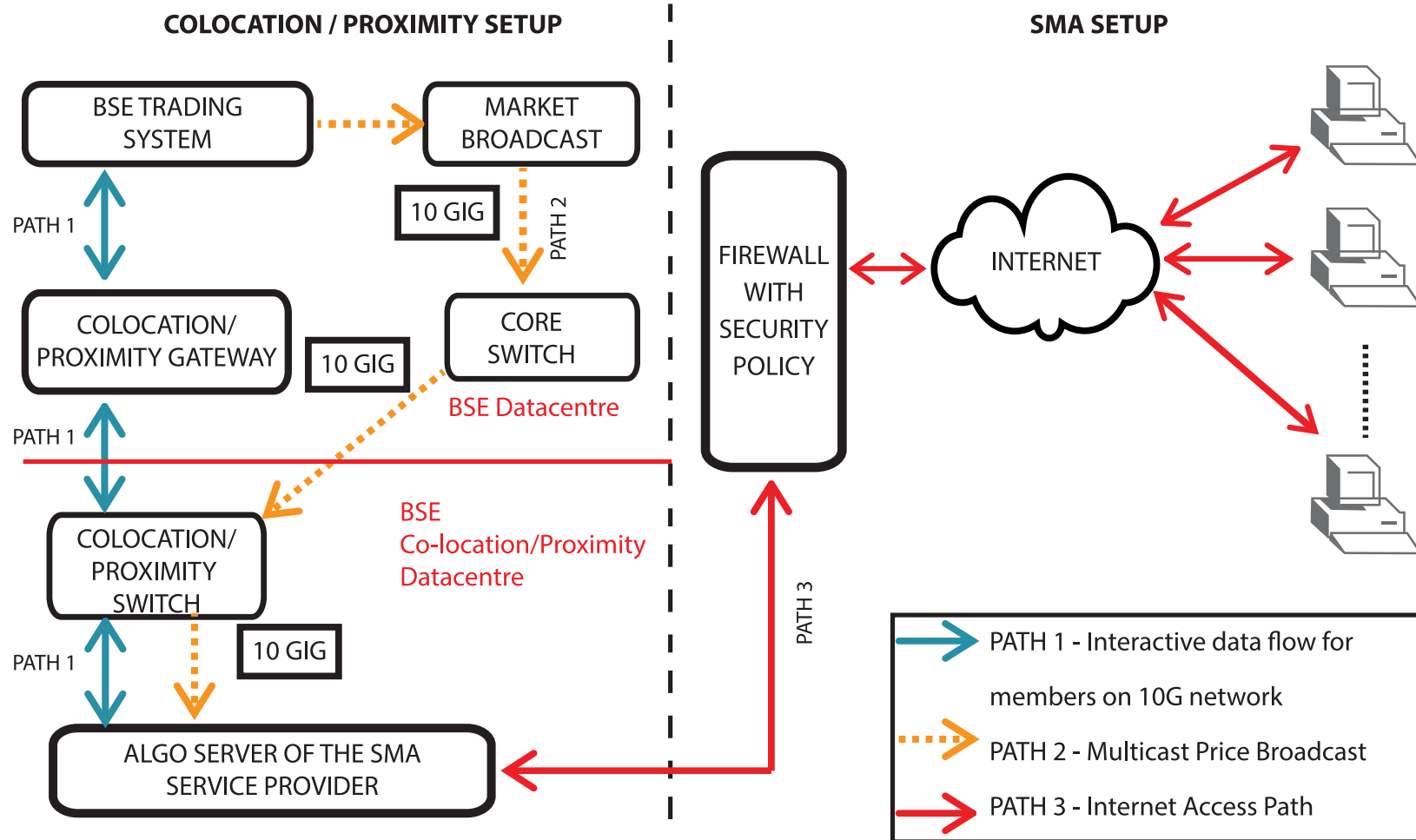
#### For Members

- Zero capital expenditure on infrastructure at Co-location.
- The algo orders will be generated at Co-location and sent to the BSE Trading system via the high speed 10G Co-location network for minimum latency.

#### For Vendors

- Free of cost rack space is allocated by BSE to SMA service providers to install their algo trading application server in BSE Co-location.
- Vendor can service multiple clients with a centralized algo server installed at Co-location. Hence, vendor's cost of maintenance is low.

# Sponsored Market Access New Facility at Co-location



## Contract Symbols

Bloomberg Ticker	Category	Type
SENSEX Index CT	S&P BSE SENSEX Index futures	Futures contract
BSE100 Index CT	S&P BSE 100 index futures	Futures contract
SENSEX Index OMON	S&P BSE SENSEX Index options	Options contract
BSE100 Index OMON	S&P BSE 100 Index Options	Options contract
LUSA Currency OMON	S&P BSE Currency Options	Options Contract
LUSA Curncy	Currency USDINR Futures	Futures Contract
LERA Curncy	Currency EURINR Futures	Futures Contract
LGBA Curncy	Currency GBPINR Futures	Futures Contract
LJPA Curncy	Currency JPYINR Futures	Futures Contract
TBBA Comdty	T-Bill	Futures Contract
IISA Comdty	Gov Bond 8.4%	Futures Contract
IIPA Comdty	Gov Bond 7.72%	Futures Contract

Thompson Reuters Symbols	Category	Type
0#BIF	S&P BSE SENSEX Equity Index	Futures contract
0#BHI	S&P BSE 100 Index futures	Futures contract
0#BIF*.BO	S&P BSE SENSEX Equity Index	Options contract
0#BHI*.BO	S&P BSE 100 Index Options	Options contract
0#BIR	Currency USD/INR	Futures contract
0#BEU	Currency EUR/INR	Futures contract
0#BGB	Currency GBP/INR	Futures contract
0#BJP	Currency JPY/INR	Futures contract
0#BSE91	Treasury Bill	Futures contract
0#B883	10 Yr G-Sec	Futures contract
0#B716	10 Yr G-Sec	Futures contract

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