Mphasis

The Next Applied

Mphasis Digital Innovation

in the Capital Markets Landscape

With the advent of digital and emerging technologies, capital markets is reinventing itself in exciting dimensions. Big data, cloud and cognitive computing data, and advanced analytics are emerging as game-changing disruptors for investment decision-making and monetization. No longer can custodians be mere 'processors'-they need to elevate themselves to being insight providers. Be it cognitive computing for automation and redesign of tedious processes, or distributed ledger technology to open new vistas for negotiated contracts, digital innovation is critical to the future of capital markets.

Collaboration is the name of the game to competitive leadership. In a low-growth environment, capital markets firms need expert partners who can disintermediate business to overcome tougher barriers, increase revenues and market share, innovate in products and services and deliver more value to underserved market segments.

Mphasis' deep knowledge and understanding of the Capital Markets domain provides continuous innovation and value in proactively addressing the industry's challenges. Leveraging semantic technology, artificial intelligence, machine learning and natural language to business problems, we deliver cognitive and smart products, solutions and services to build profitable and future-proofed organizations
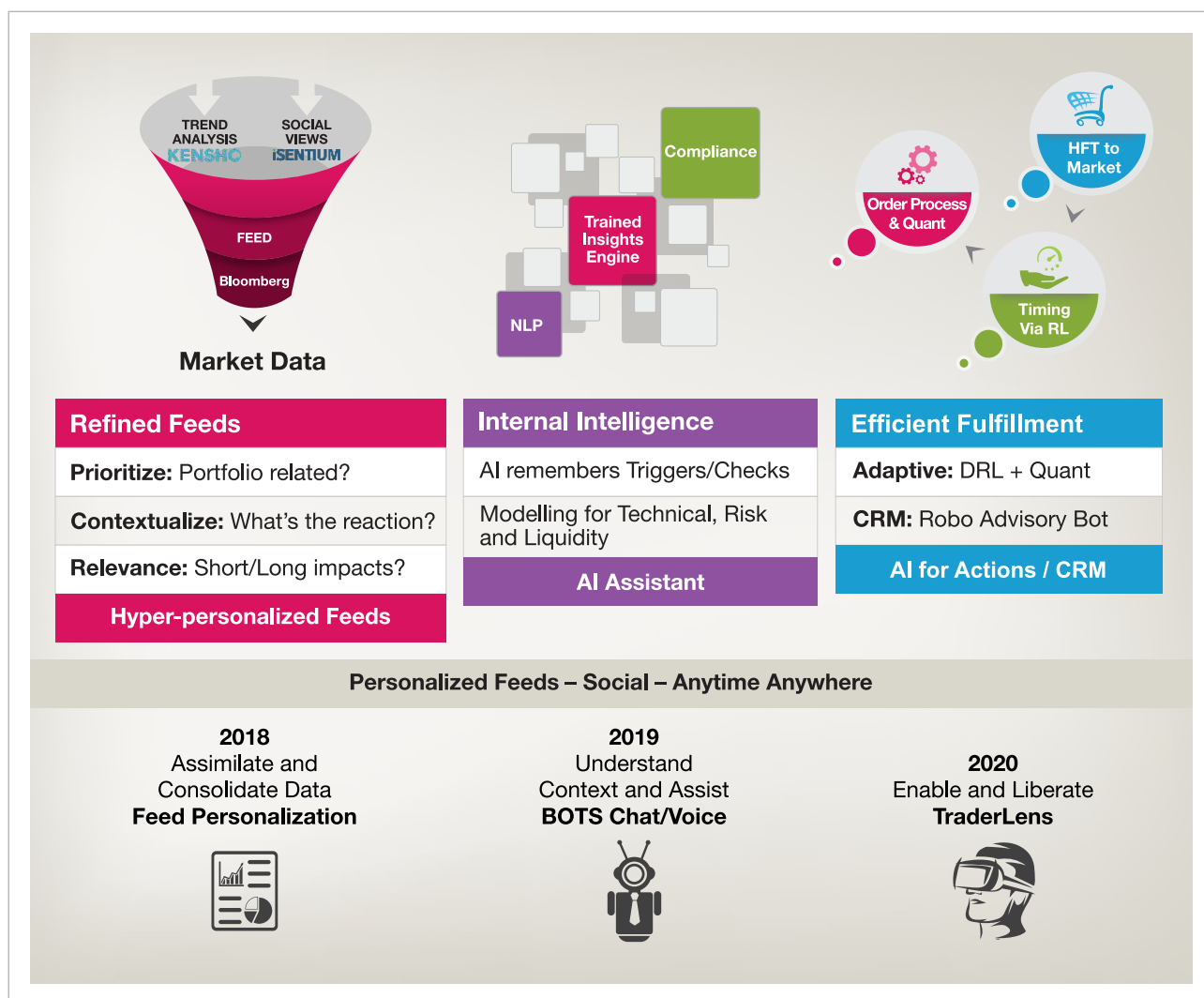
Our Solutions

Mphasis' innovative solutions span the areas of cognitive computing, blockchain, semantic technology, virtual and augmented reality.

Mphasis TraderLens

A first-of-its-kind Augmented Reality solution delivered on Microsoft Hololens. Mphasis TraderLens encapsulates a trader workstation with efficiency, accuracy and tremendous ease-of-use.

In just four screens, Mphasis TraderLens provides all communication, data, information, visualisation and collaboration features that are required by traders. This frees the trader, across all asset classes, to deploy his time and effort to add value to his operations.

Hyper-personalized Feeds and Bots – A 3 year Transformation

TREND ANALYSIS KENSHO **SOCIAL VIEWS** iSENTIUM

FEED

Bloomberg

Market Data

Compliance

Trained Insights Engine

NLP

HFT to Market

Order Process & Quant

Timing Via RL

Refined Feeds	Internal Intelligence	Efficient Fulfillment
Prioritize: Portfolio related?	AI remembers Triggers/Checks	**Adaptive:** DRL + Quant
Contextualize: What's the reaction?	Modelling for Technical, Risk and Liquidity	**CRM:** Robo Advisory Bot
Relevance: Short/Long impacts?	**AI Assistant**	**AI for Actions / CRM**
Hyper-personalized Feeds		

Personalized Feeds – Social – Anytime Anywhere

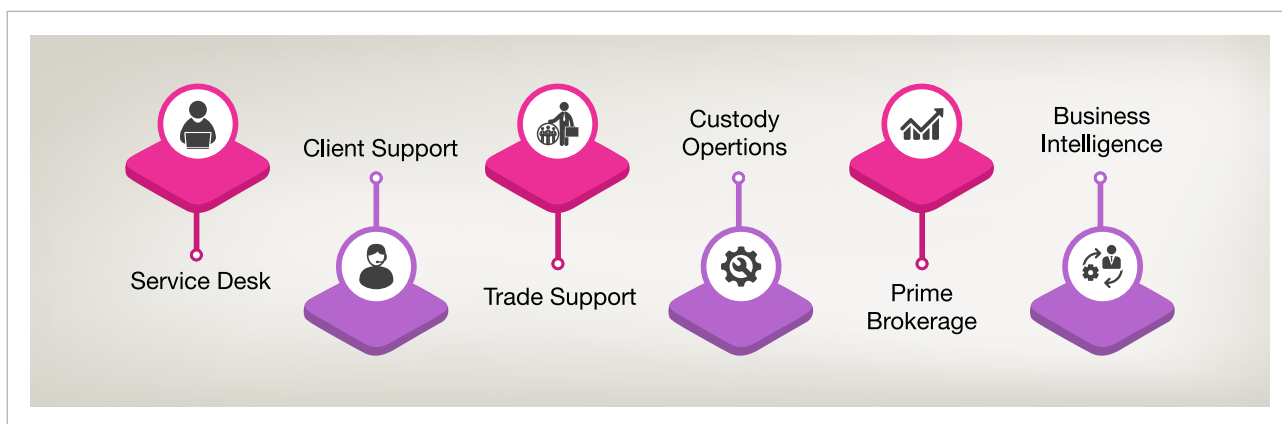| 2018	2019	2020
Assimilate and Consolidate Data **Feed Personalization**	Understand Context and Assist **BOTS Chat/Voice**	Enable and Liberate **TraderLens**

Blockchain-based Margining and Collateral Management system for OTC Derivatives

We are developing the first blockchain-based margining and collateral management system that provides meticulous process and data quality for real-time risk management of OTC Derivative Trades. The solution defines a Smart Contract that captures the elements and essence of ISDA Masters and CSAs and allows for Trades to be ingested in real-time, generating Margin positions online We have co-created such a solution for one of the largest global market utility provider

Chatbot-based Conversational Solution for Post Trade and Asset Servicing

Bringing design thinking to post-trade and asset servicing, we are building the Industry's first Voice-based, Virtual assistant for Custodians and Prime brokers. This replaces monotonous screen-based data query inputs for routine tasks (such as agreeing trades, checking positions and posting collateral) with conversational chats, and frees valuable Analyst time to interact with customers and provide value-added services that enhance customer experience.
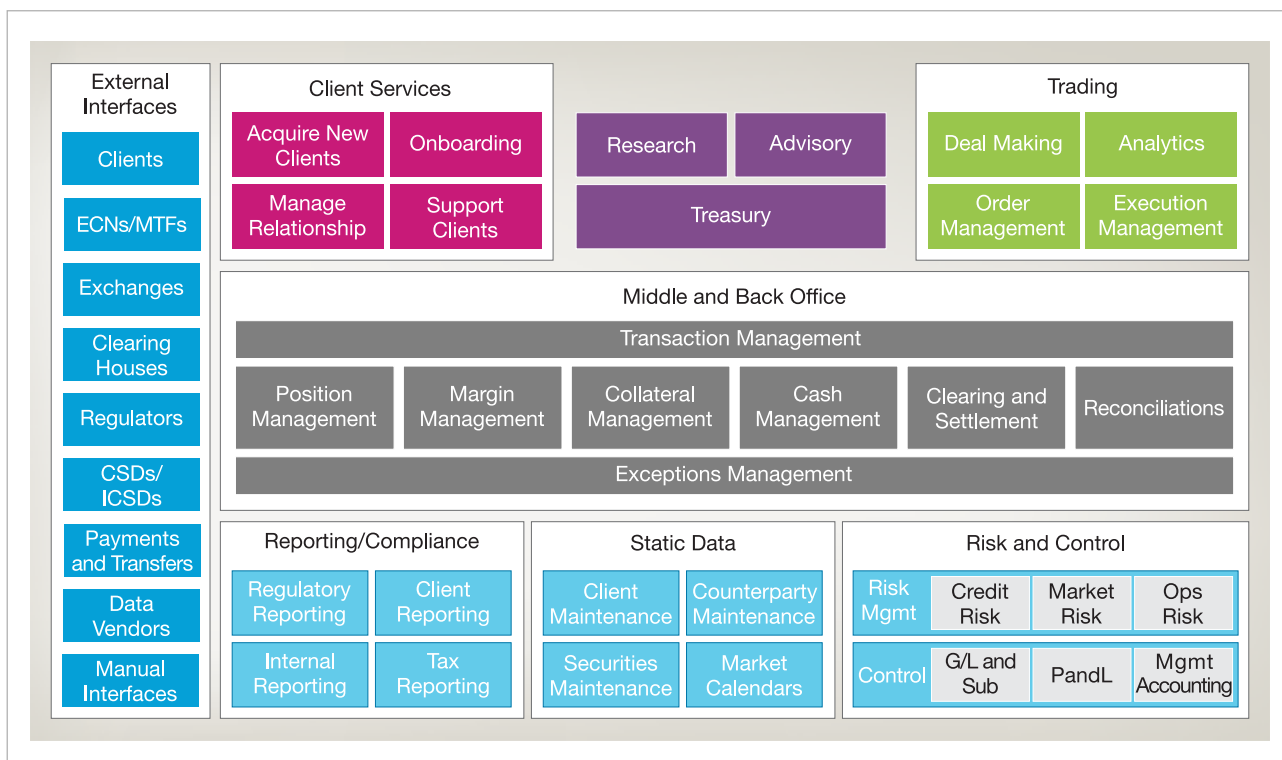
Function Specific Virtual Assistance for Personalised Experiences

Service Desk

Client Support

Trade Support

Custody Opertions

Prime Brokerage
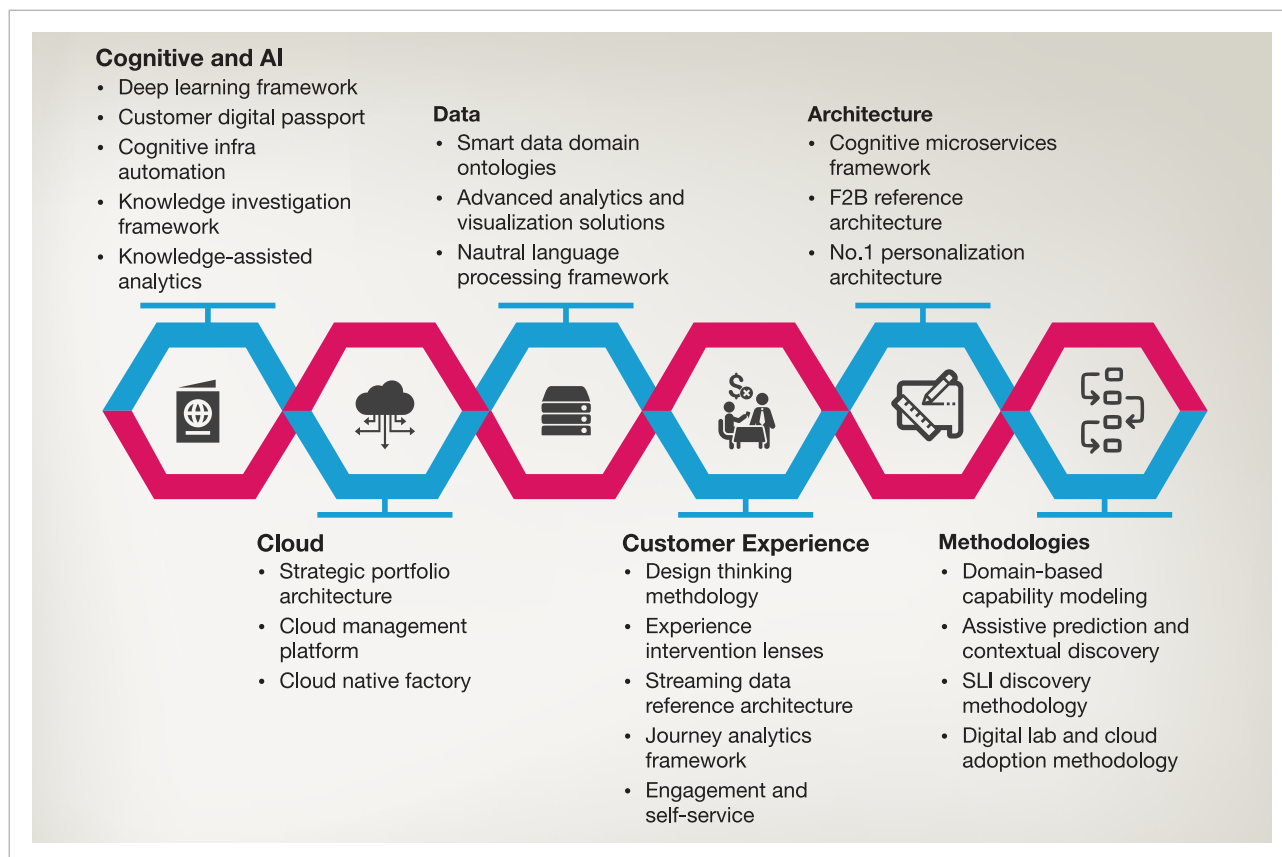
Business Intelligence

Our Footprint of Engagements

Our innovative solutions have played a key role in shaping the technology journey of the capital markets industry and have achieved the following:

› Create a global collateral engine for 'one view' of counterparty collateral for a leading investment bank
› Build a bespoke valuation engine for exotics and less liquid assets for a global custodian
› Redesign the OTC derivatives margining system compliant with DFA and EMIR recommendations for a 'Top 3' investment bank
› Integrate an industry-standard buy side platform to a leading custody provider – one of the largest mandates in the industry
› Partner with the largest global prime brokerage institution to transform their entire Repo and Securities Borrow Loan Platform
› Redesign the Order Management System for the world's third largest stock exchange

External Interfaces

Clients

ECNs/MTFs

Exchanges

Clearing Houses

Regulators

CSDs/ICSDs

Payments and Transfers

Data Vendors

Manual Interfaces

Client Services

| Acquire New Clients | Onboarding |
| Manage Relationship | Support Clients |

Research | Advisory

Treasury

Trading

| Deal Making | Analytics |
| Order Management | Execution Management |

Middle and Back Office

Transaction Management

| Position Management | Margin Management | Collateral Management | Cash Management | Clearing and Settlement | Reconciliations |

Exceptions Management

Reporting/Compliance

| Regulatory Reporting | Client Reporting |
| Internal Reporting | Tax Reporting |

Static Data

| Client Maintenance | Counterparty Maintenance |
| Securities Maintenance | Market Calendars |

Risk and Control

| Risk Mgmt | Credit Risk | Market Risk | Ops Risk |
| Control | G/L and Sub | PandL | Mgmt Accounting |

An Array of Intellectual Properties

Across the areas of data, cloud, cognitive, AI, architecture, methodologies and customer experience, we customize our solution and deliver it blending in the right IP.

Cognitive and AI
- Deep learning framework
- Customer digital passport
- Cognitive infra automation
- Knowledge investigation framework
- Knowledge-assisted analytics

Data
- Smart data domain ontologies
- Advanced analytics and visualization solutions
- Nautral language processing framework

Architecture
- Cognitive microservices framework
- F2B reference architecture
- No.1 personalization architecture

Cloud
- Strategic portfolio architecture
- Cloud management platform
- Cloud native factory

Customer Experience
- Design thinking methdology
- Experience intervention lenses
- Streaming data reference architecture
- Journey analytics framework
- Engagement and self-service

Methodologies
- Domain-based capability modeling
- Assistive prediction and contextual discovery
- SLI discovery methodology
- Digital lab and cloud adoption methodology

Case Study

Securities Borrow/Loan Platform - Prime Brokerage of a Global Universal Bank

We broadened the system functionality, increased process accuracy, reduced costs and improved user experience of the client's global securities lending platform across 7 major financial markets in 5 continents. The client achieved following benefits -

› Saved $15 million annually on interest charges

› Reduced collateral valuation processing time from 4 hrs. to 8 mins

› Technology refresh on multiple legacy modules, leading to a $1.2 million savings on a 3-year TCO of a portfolio earmarked for sunset

ABOUT MPHASIS

Mphasis applies next-generation technology to help enterprises transform businesses globally. Customer centricity is foundational to Mphasis and is reflected in the Mphasis' Front2Back™ Transformation approach. Front2Back™ uses the exponential power of cloud and cognitive to provide hyper-personalized ($C=X2C_{\scriptscriptstyle TM}^2=1$) digital experience to clients and their end customers. Mphasis' Service Transformation approach helps 'shrink the core' through the application of digital technologies across legacy environments within an enterprise, enabling businesses to stay ahead in a changing world. Mphasis' core reference architectures and tools, speed and innovation with domain expertise and specialization are key to building strong relationships with marquee clients.

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