

# Latest Technological Developments at CSDs

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ACG26- Technical Task Force  
(Breakout Session)

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# Agenda



Serving the Nation with Technology, Trust & Reach

**Harmonization Initiatives**

**Product Innovations**

**Emerging Trends and Strategic Opportunities**



# NSDL Snapshot



Serving the Nation with Technology, Trust & Reach



1996

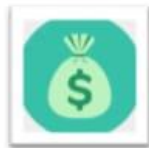
**First Depository in India**



Investors present in more than **99.3%**  
pin codes in India and  
spread across **189 countries**.  
**62,800+** Investor Service centers



**84%** of new accounts opened in NSDL  
have unique PAN



**\$5.9 Trillion** of Custody value  
**86%** of the custody value in India



**99%+** of FPIs &  
**97%** of debt securities  
are held with NSDL.



Key enabler to start beta version of **T+0** settlement recently in India.

# Harmonization Initiatives



# Harmonization Initiatives: Standardized File Formats

- **Adoption of ISO 20022:** This standard enhances data quality, interoperability, and efficiency in financial messaging.
- **Benefits:** Improved data consistency, reduced errors, and streamlined processes.
- **Timeline:** Implementation started in Q1 2023; implemented in Q3 2024.

# Harmonization Initiatives:

## Sample Standardized File

A	B	ISO Tags	C	D	E	F	G	H	I	J	K	L	M	N
Src	CntrlSciesDpstryPtcpt	Brnchld	RcvDt	RcrdNb	RcdSRNumber	Cntld	PrdNb	BnfcrySubTp	Purpose	Titl	FrstNm	MddlNm	LastNm	
2	NSDL IN300126	0	2010-07-19T00:07:00	1	1	1304140006503400	IND	INRES	FH		CUST_NAME_4589905	MIDDLE_NAME_4589905	CUST_SRCH_NAME	
3	NSDL IN300127	0	2010-07-19T00:07:00	1	2	1304140006503400	IND	INRES	NM		CUST_NAME	BO_MIDDLE_NAME	CUST_SRCH_NAME	
4	NSDL IN300128	0	2010-07-19T00:07:00	1	3	1304140006503400	IND	INRES	FH					
5	NSDL IN300129	0	2010-07-19T00:07:00	1	4	1304140006503400	IND	INRES	SGNDT					

# Harmonization Initiatives: API Specifications

- **Development of Standardized APIs:** These APIs facilitate seamless integration across different systems.
- **Benefits:** Reduced integration costs for intermediaries, faster time-to-market, and enhanced interoperability.
- **Timeline:** API development began in Q2 2023, roll out planned from October 2024 in phased manner.

# Product Innovations





# Product Innovations: Direct Payout

As per SEBI guidelines, CCPs will directly credit securities to clients' demat accounts, eliminating the practice of CM/TM pooling securities before distribution.

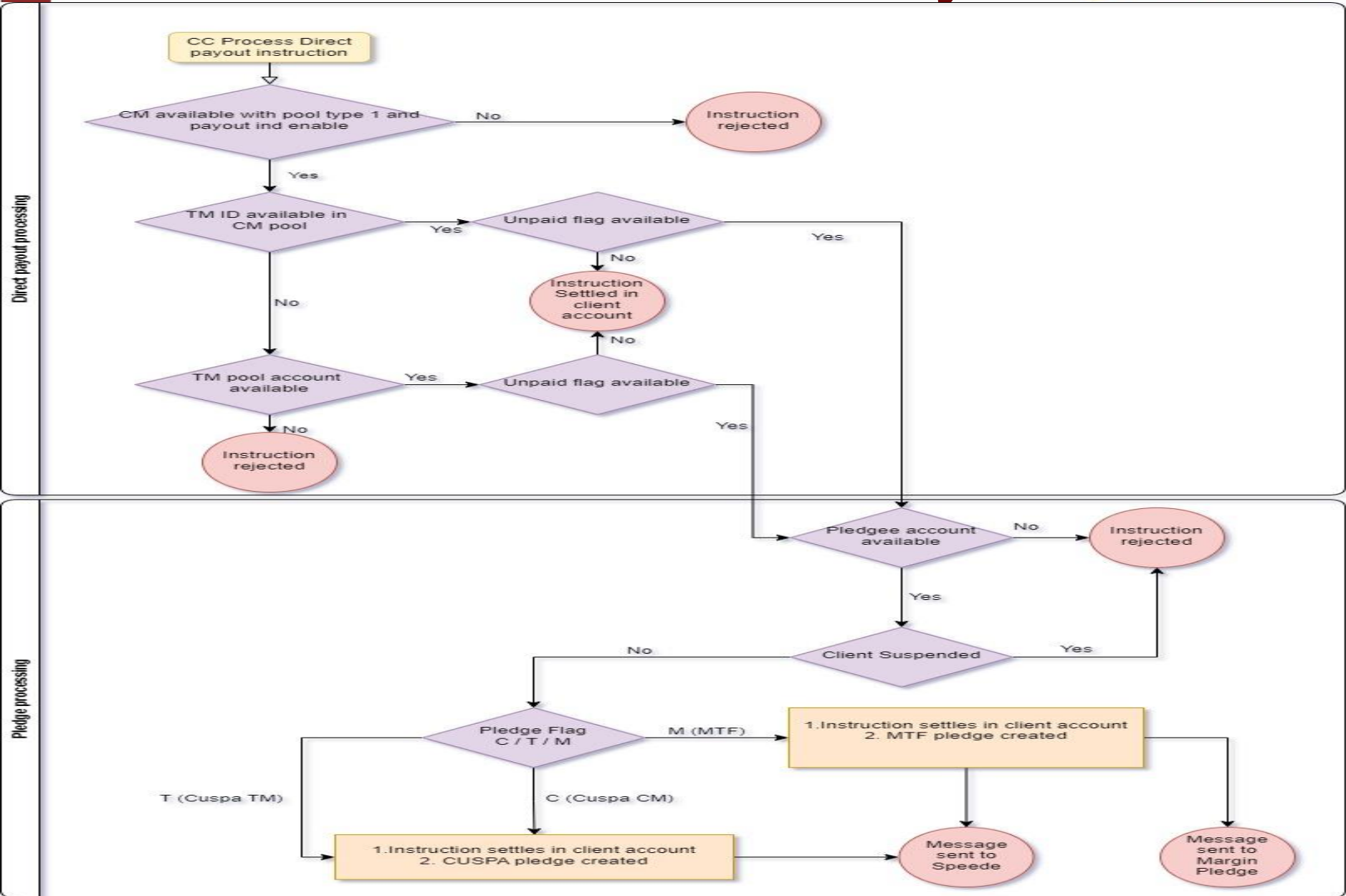
## Existing System:

- Step 1: Securities from CCP are credited to the CM/TM Pool Account.
- Step 2: The CM/TM then distributes the securities to individual Client Demat Accounts.

## Direct Payout System (New Implementation):

- Step 1: Securities from CCP are directly credited to the Client Demat Accounts.
- Step 2 : Hop In and Hop out from CCP-CM-TM in seamless manner.
- Step 3: Securities under MTF are pledged in a dedicated account called Client Securities under Margin Funding Account, followed by an auto-pledge in favor of these accounts.
- **Benefits:** Reduced Risk to Clients, Transparency, Enhanced Operational Efficiency

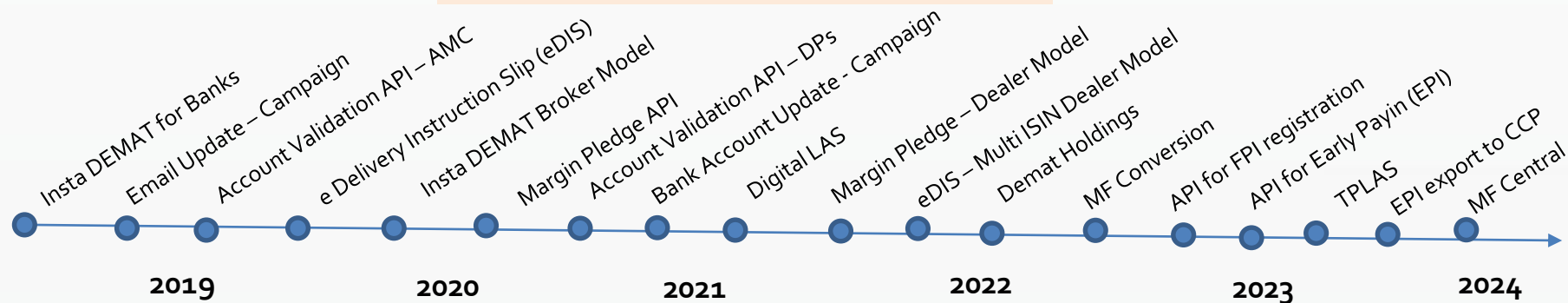
# Product Innovations: Direct Payout NSDL



# Product Innovations: API-fication of depository services

Focus on establishing the framework for developing demat account validation, account maintenance and transaction APIs aligned with NSDL security policy

## Accomplishments since 2019 till date



## Key API Transaction Volumes

### Insta DMAT

457,000 accounts opened real time via this facility

50 Business Partners

### e Delivery Inst Mandates

2.2 million eDIS Mandates [monthly]

74 Business Partners

### Margin Pledge

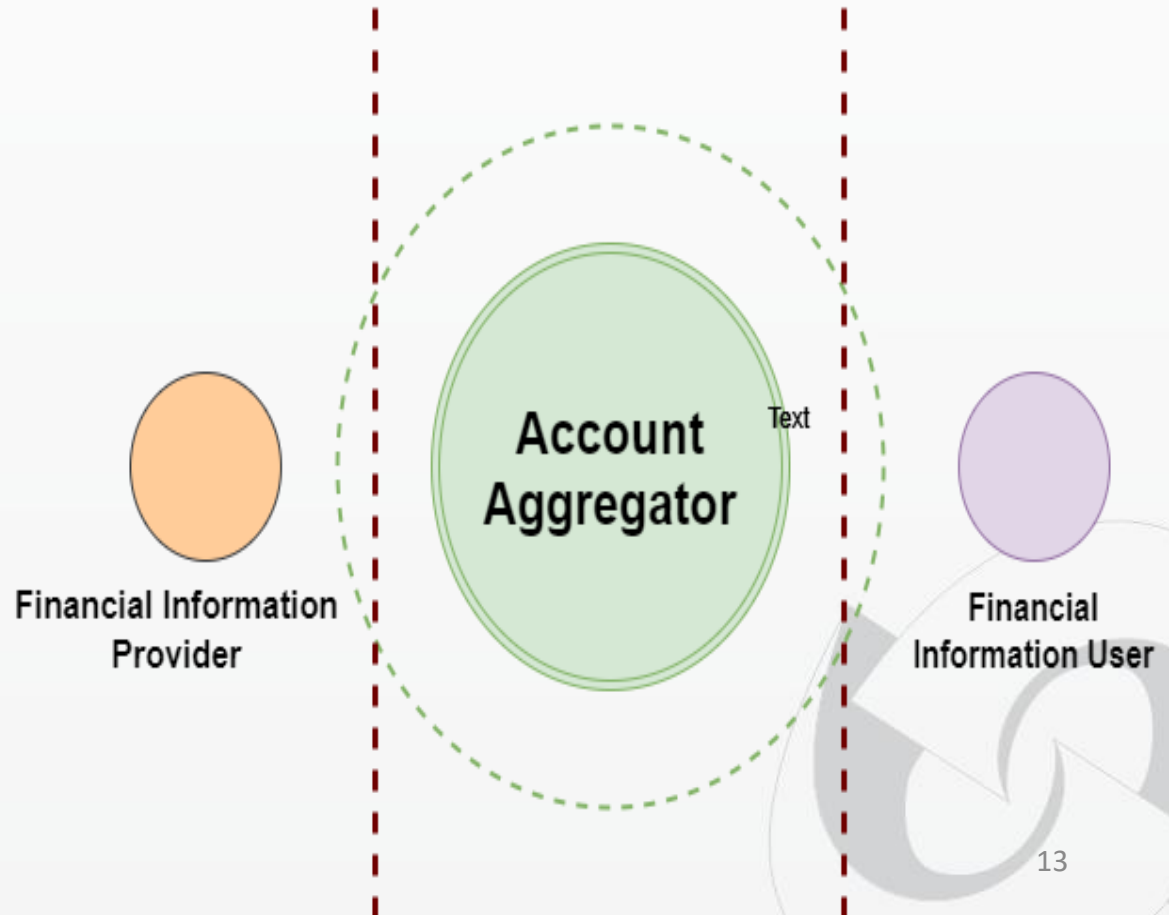
Over 2.6 million pledge transactions [monthly]

249 Business Partners

# Product Innovations: Account Aggregator

The Account Aggregator Ecosystem APIs enables real-time financial information aggregation functionality as set forth in the Reserve Bank of India (RBI) Master Direction- Non-Banking Financial Company.

- **Well defined API**
- **Data structure agnostic**
- **Real-time**
- **Support Discovery**
- **Differentiated linking**
- **Ensures trust in the system**
- **Consent Life cycle Management**
- **Data blind**
- **Citizen's Charter**



# Key Trends Shaping the Future of CSDs



# Key Trends Shaping the Future of CSDs

## Emerging Technologies:

- **Artificial Intelligence (AI) and Machine Learning (ML):** These technologies are being used for predictive analytics, fraud detection, and improving operational efficiency.
- **Cloud Strategy:** Adoption of cloud services for scalability, cost efficiency, and enhanced data management.
- **Blockchain and Distributed Ledger Technology (DLT):** CSDs are increasingly adopting blockchain to enhance security, transparency, and efficiency in transactions.

# Key Trends Shaping the Future of CSDs

## Regulatory Changes:

- **Increased Compliance Requirements:** Stricter regulations are pushing CSDs to enhance their compliance frameworks and reporting mechanisms.
- **Global Harmonization:** Efforts towards standardizing regulations across different jurisdictions to facilitate cross-border transactions.

## Market Demands:

- **Real-Time Settlement:** The push towards T+1 and T+0 settlement cycles to reduce counterparty risk and improve liquidity.
- **Digital Assets:** Integration of digital assets into traditional portfolios, expanding the scope of services offered by CSDs.



# Key Trends Shaping the Future of CSDs

## User-Centric Innovations:

- **Enhanced User Experience:** Focus on developing user-friendly platforms and services based on user feedback and needs.
- **Customization and Personalization:** Offering tailored services to meet the specific needs of different user segments.

## Strategic Collaborations:

- **Partnerships with Fintechs:** Collaborating with fintech companies to leverage innovative solutions and stay competitive.
- **Cross-Border Cooperation:** Working with other CSDs and financial institutions to streamline international transaction.

**THANK YOU**