



**Technology Enabled Information Dissemination**


May 9, 2006



## Role of Online De-mutualised Exchange

- \* Unanimous Trading Platform
  - Neutrality : Conflict of Interest avoided
- \* Transparent, Real time and Pan-geographic Price Dissemination
  - Benchmark Reference Price
  - Liquidity to Market Participants
- \* Risk Management
  - Robust Clearing & Settlement Process
  - Fair, Safe and Orderly market through rigorous surveillance

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## Global Commodity Exchanges

	Range of commodities			
CME	★	⬡		
NYMEX	🪴	▲		
CBOT	★	⬡		
NYBOT	★			
TOCOM	🪴	▲		
LME	📦			
EUREX	★	⬡		
SICOM	★			
NCDEX	★	📦	🪴	▲

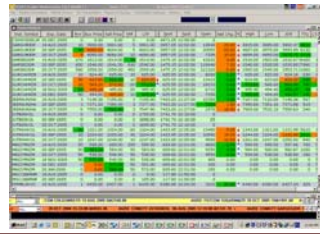
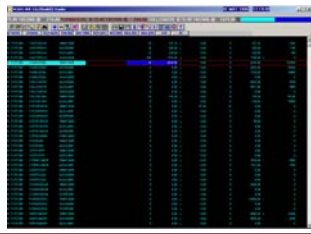
Agro	★
Base Metals	📦
Energy	🪴
Precious Metals	▲
Bonds, currencies, indices	⬡

Indian model leverages technology to span entire commodity spectrum



## Trading system

- Automated trading mechanism
- Buyers and sellers unknown
- Nationwide reach and equal access
- Order matching on price-time priority
- Time stamping for each order and trade
- SLA driven order and trade confirmation
- Complete audit trail



## Spot Price Dissemination

- Polled from Major Mandis through reputed agencies
- Multiple Frequency – Cross verification by Exchange
- Statistical process – Bootstrapping to arrive at Benchmark Bid/Ask price
- Display on Trading Terminal
- Data Warehousing

**Online Exchanges are capable to poll spot prices across several locations and disseminate it simultaneously**



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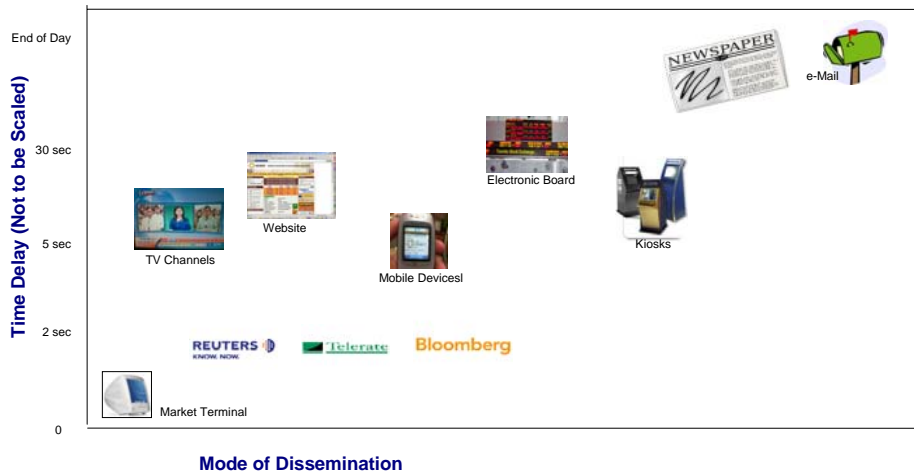
## Information Reach

Category	Online				Offline				
	Website	Trading Terminal	Display Boards	Kiosks	Website	Extranet	Media Print and TV	CD & Other Media	
Spot Rates Mandi Rates International	○ ○	○ ○	○	○	○ ○	○	○	○	
Future Prices	○	○	○	○	○	○	○	○	
MTM & Clearing						○			
Warehouse & Logistics	○	○			○	○			
Weather Information				○	○		○	○	
Product Info & Training				○	○		○	○	
Research Report					○	○		○	
MIS	○	○			○		○	○	

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# Time Delay across Channels



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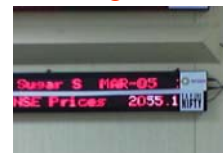
## Home Website



## TV & NEWS



## Moving Tickers

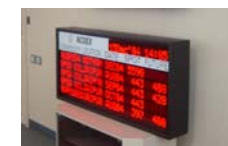


## Call Center



Commodity Price Dissemination

## Daily Bhavcopy



## Vernacular Display



## Agri Web Portal



## Mobile Devices

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## Information Channel

Channel	Partnered with	Mode of Dissemination
Banks	Major PSU and new generation banks like ICICI Bank	Branches connected to Bank's internal network connected through respective nodal points Remote rural branches on dial-up internet
Media	DD News & DTH, CNBC, Sahara News, Reuters, Moneyline Telerate, Telequote	Live quotes sent through dedicated leased circuits (with 1:1 redundancy)
Agri Portals & Call Centers	AgMarknet, AP Online, State Mandi Boards Kisan Call Centers	Web portals are enabled through horizontally scrolling price tickers (both spot & futures) Electronic Price Boards in mandi markets are enabled either through State WAN or dial-up internet connectivity
Kiosks	eChoupal, nLogue, Drishtee, eKurshi Vipanan	FTP download of data at regular intervals from the trading system
Corporates	HLL, Godrej, ITC, Arvind Mills, Parle	View-alone "Market Data" terminals provided at their corporate locations providing online quotes
Print Media	Business Standard, Midday, Vyapaar and other Leading Vernacular dailies	Files generated at the end of the day is transmitted to their offices for press release (The entire process is fully automated)

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## Electronic Boards

Category	Dimension (In Inches)			Pixels in Characters	Power Consumption
	L	H	W		
Unilingual	56	5	2	30	50 Watts
Multilingual	69	7	4	30	125 Watts
Large Multilingual	118	6	3	60	250 Watts
NCDEX/NSE	66	9	2	30	150 Watts



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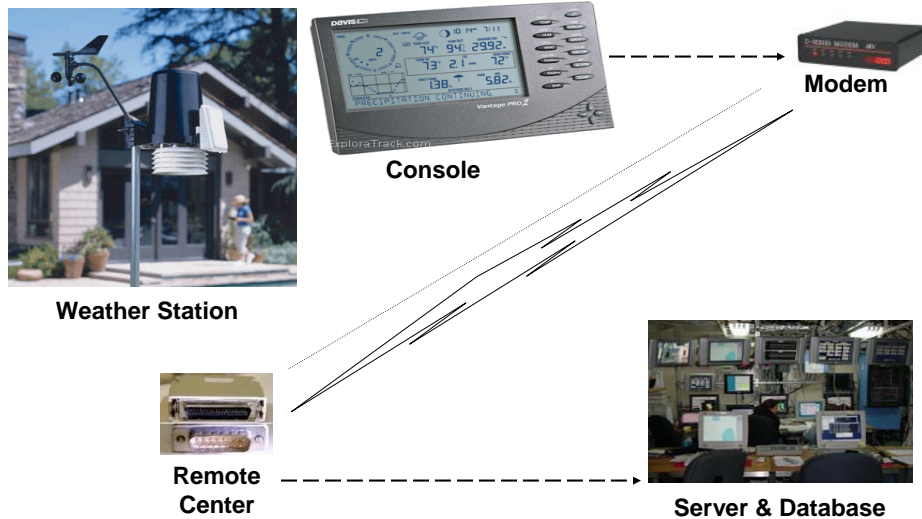
## Connectivity Commercials

Connectivity Type	Effectiveness & Limitation	Operational Cost
Internet (Dial-up Modem)	Available through all Telecom Service providers pan India	Usage based charges Rs. 150 – 250 /month
Internet Broadband DSL/ADSL	Services introduced in medium & large centers, gradually increasing to small towns	Rs. 250 – 400 /month Highly reliable with good throughput
Mobile Technology GSM/CDMA/GPRS	All mobile operators provide internet based connectivity Slow and unreliable link	Multiple tariff by mobile service operators based on the data download and usage
VSAT	Low Cost (Ku-band) services available with all vendors. One-way transmission device using broadcast communication is tested.	Rs. 60,000 (fixed) + Rs. 5000 towards bandwidth and maintenance every year. Device fitted into the electronic board would cost Rs. 20,000 (apprx.)
CorDect WLL	Base station coverage of 10 Km ( 25 Km with repeaters)	Cost of nodal equipment at base station is higher compared to the end points
WiMax	Point to multipoint broadband in a radius of 50 KMs	Emerging technology Spectrum allocation not in place
Satellite Transmission (DTH)	Pan-India footprint coverage High throughput for 1-way communication	Costly proposition Licensing issue

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## Capturing Weather Information

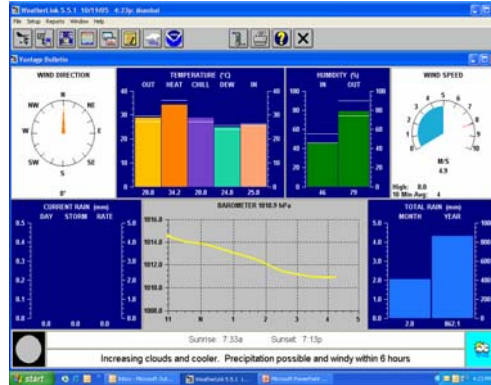


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## Weather Station : Parameters Tracked

- Parameters identified in consultation with various user agencies:
  - Rainfall (amount and intensity)
  - Temperature (min and max)
  - Relative humidity
  - Wind speed and direction
  - Atmospheric pressure



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## Challenges in Reaching Hinterlands

- Right Choice of Location
  - Market, Warehouse
  - Protected space
- Power and Other Infrastructure
  - Supply of stable power
- Connectivity Options
  - Existing or New Network Architecture
  - Internet based connectivity
  - Other types of links
- Support
  - AMC & Insurance
  - Handholding

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Thank You