CONDICO delivery to PolPX

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Agenda

- Project background and objectives

- The OMX proposal to PolPX

- Delivery project and post project activities

- Lessons learned and other observations

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Project background (PolPX)

- PolPX quick facts
  - Established in 1999 in a government run tender
  - Trading on Day-Ahead Market for physical electricity commenced in June 2000
  - In 2005 started GCR and GC market
  - Since Oct. 2008 also runs market for power futures
  - Customer base:
    - <u>For physical delivery power market:</u> power producers, distributors and traders
    - <u>For GCs:</u> green energy producers, power traders with end-user customers

- PolPX system background:
  - 2 independent custom made systems for physical delivery power Day-Ahead Market and for then-traded power futures market
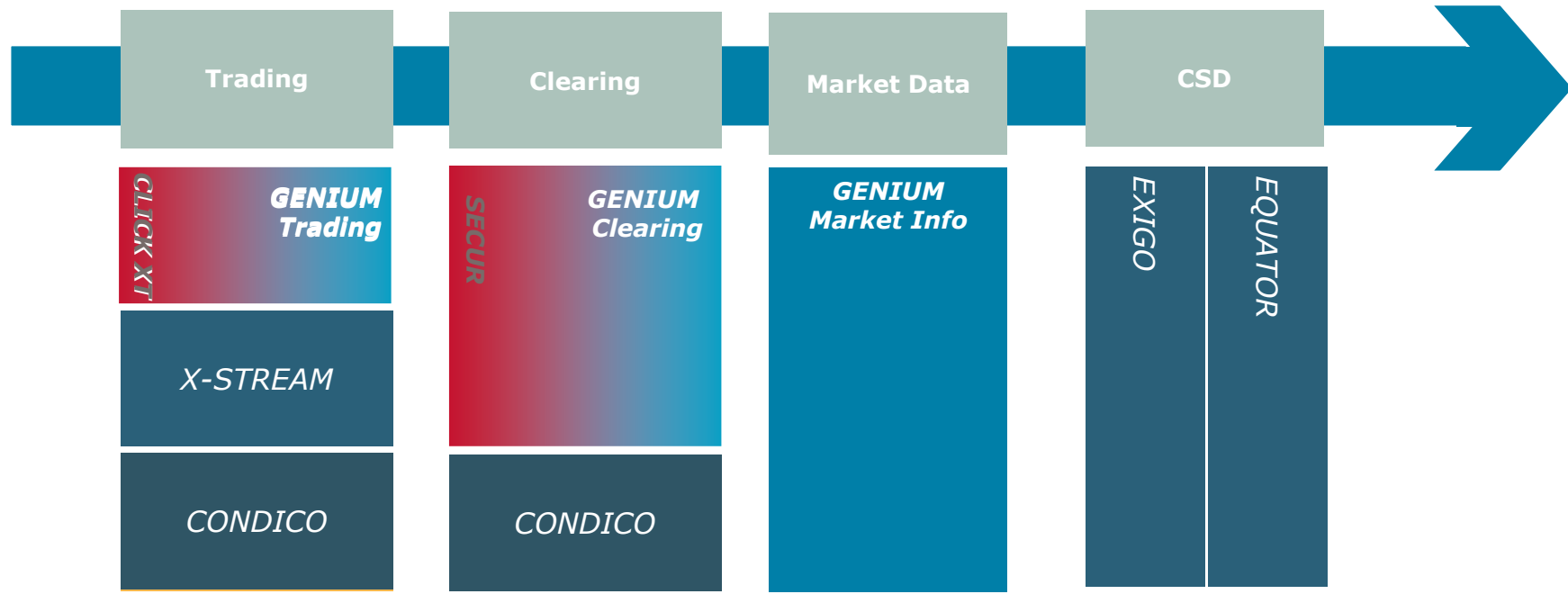 - Completely separate business flows
  - Inflexible in design

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Project objectives (PolPX)

- Flexible exchange solution capable of supporting multiple commodities and derivatives

- Combined trading and clearing facilities

- Fast time to market

- Good value for money

- Customized, but not custom built

- Experienced and recognized vendor

- Delivery of Green Certificates Registry

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NASDAQ OMX transaction technology

Trading	Clearing	Market Data	CSD

CLICK XT / **GENIUM Trading**

X-STREAM

CONDICO

SECUR / **GENIUM Clearing**

CONDICO

GENIUM Market Info

EXIGO | **EQUATOR**

Supporting Services

Software Support	Technical Operations

- Business- and Technical Advisory Services
- Training Services
- Transaction Related Services

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Project offering and scope

- Integrated trading and clearing proposal based on the CONDICO platform
  - Complete system for trading and clearing of power spot and derivatives
  - Improvements for "discrete delivery contracts" and integration to a GCR register

- Alternatives in terms of CONDICO delivery:
  - NASDAQ OMX software license and maintenance only
  - NASDAQ OMX and 3rd party software license and maintenance
  - Hosted solutions of NASDAQ OMX and 3rd party software including operational services

- A custom developed GCR (source code) delivery
  - Built to custom specification developed during the project
  - Subcontracted by NASDAQ OMX from a 3rd party

- Approach based on 2 project phases to enable short time to market

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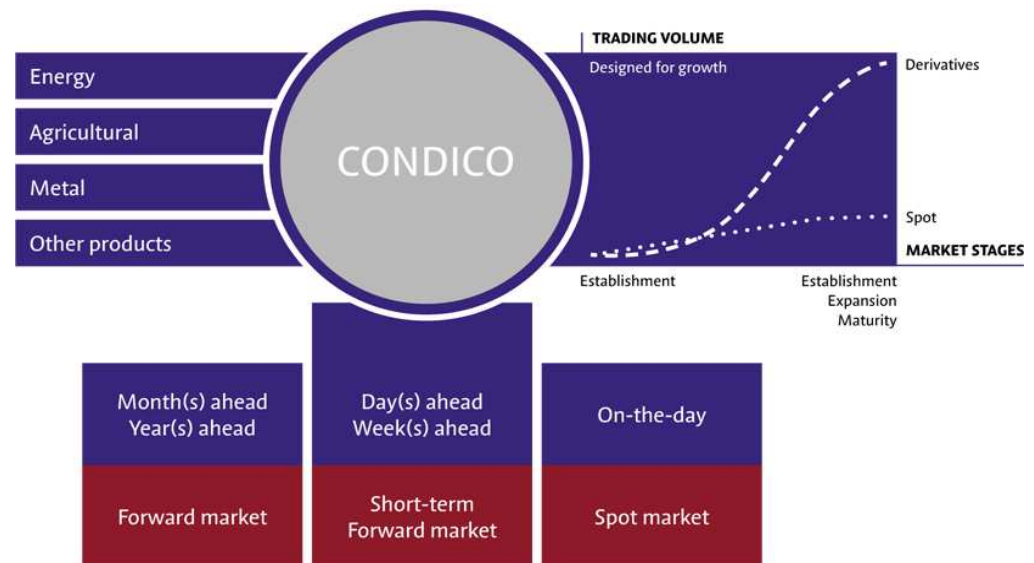**NASDAQ OMX**

CONDICO overview

A transaction platform *purpose built* for the commodity trading community and designed for low total cost of ownership

A comprehensive software platform with both trading and post-trade processing capabilities
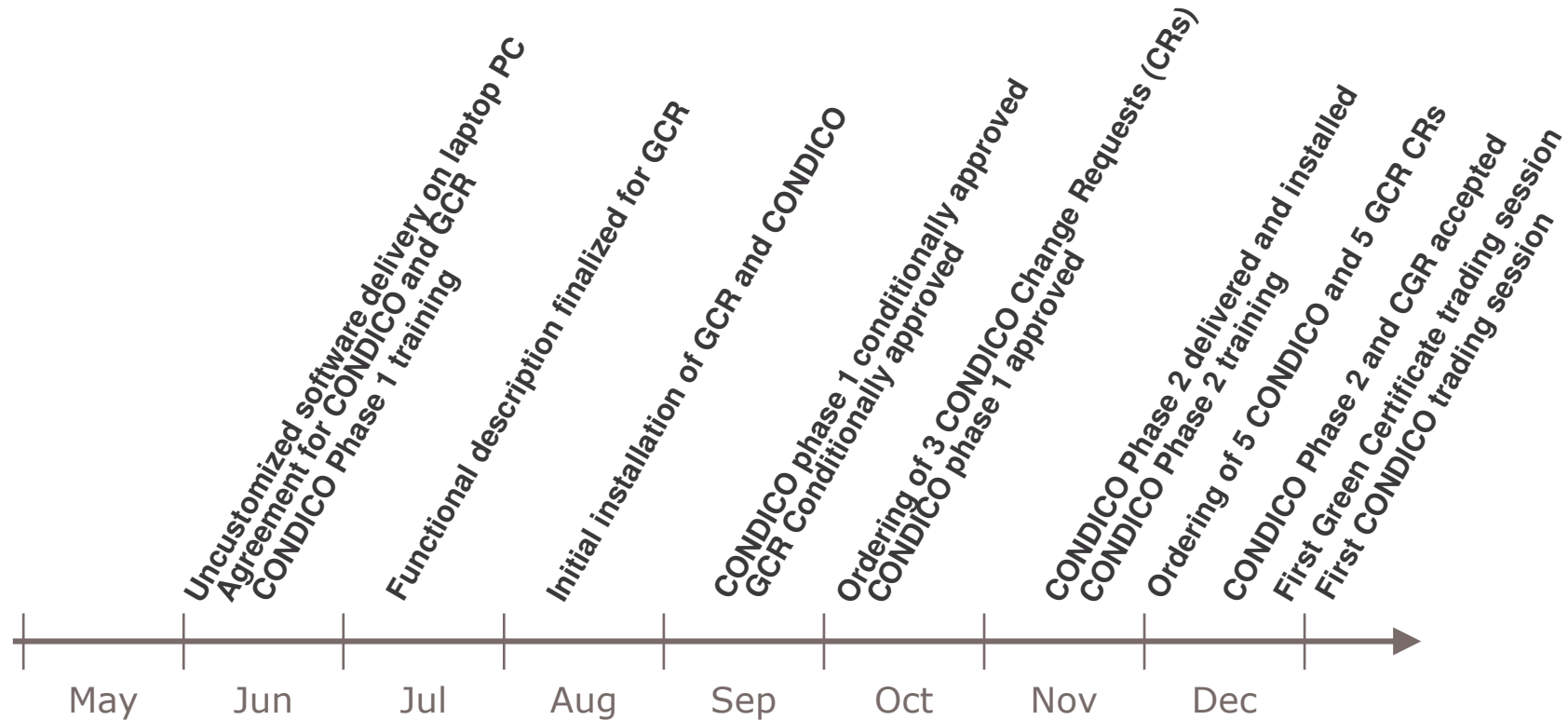
Based on the solidity and reliability that have become the benchmark of NASDAQ OMX transaction technology

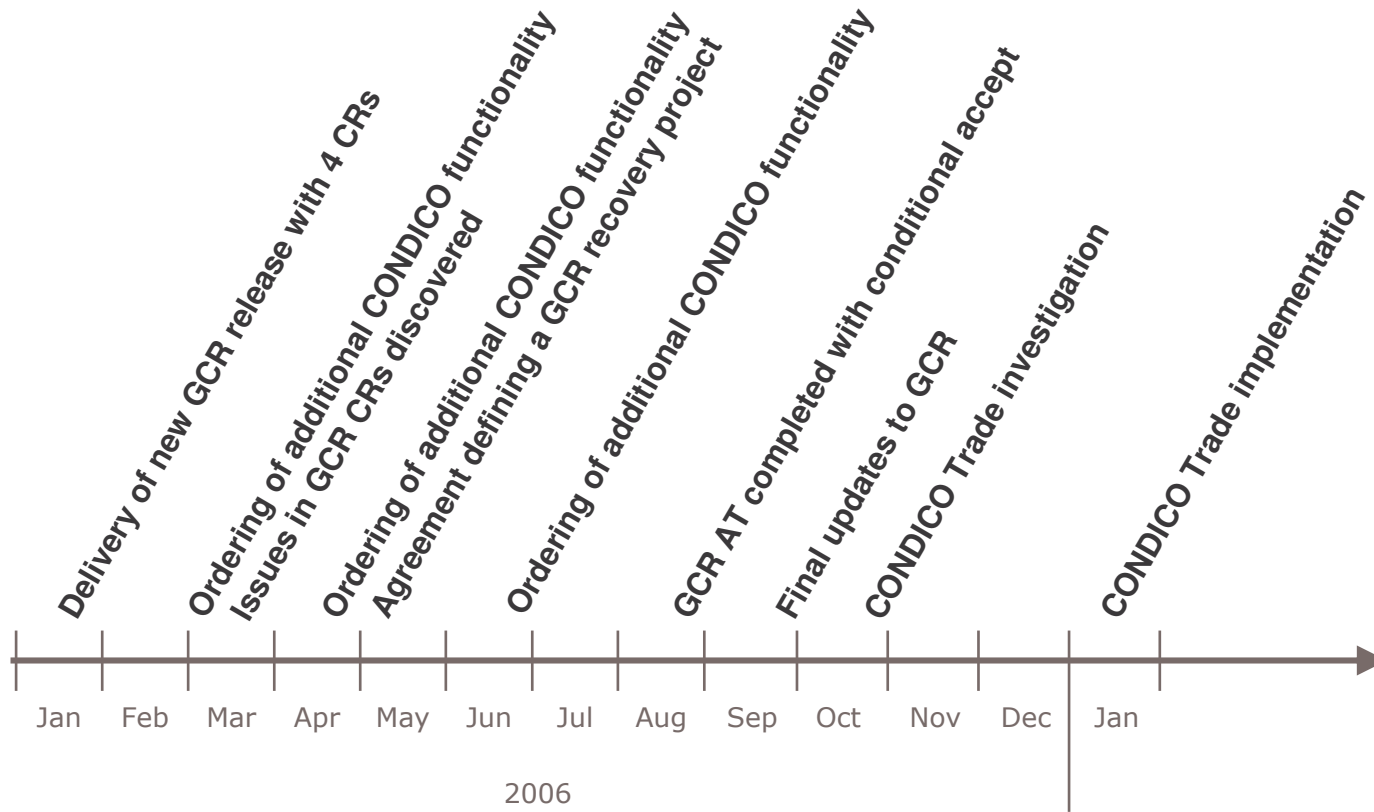Field proven in both spot and derivatives commodity markets

Can be deployed as stand-alone trading or clearing solution, or as an integrated solution

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Delivery project timeline

Timeline items:
- Uncustomized software delivery on laptop PC
- Agreement for CONDICO and GCR
- CONDICO Phase 1 training
- Functional description finalized for GCR
- Initial installation of GCR and CONDICO
- CONDICO phase 1 conditionally approved
- GCR Conditionally approved
- Ordering of 3 CONDICO Change Requests (CRs)
- CONDICO phase 1 approved
- CONDICO Phase 2 delivered and installed
- CONDICO Phase 2 training
- Ordering of 5 CONDICO and 5 GCR CRs
- CONDICO Phase 2 and CGR accepted
- First Green Certificate trading session
- First CONDICO trading session

Timeline axis: May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

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Post project timeline, first year

Delivery of new GCR release with 4 CRs

Ordering of additional CONDICO functionality
Issues in GCR CRs discovered

Ordering of additional CONDICO functionality
Agreement defining a GCR recovery project

Ordering of additional CONDICO functionality

GCR AT completed with conditional accept

Final updates to GCR

CONDICO Trade investigation

CONDICO Trade implementation

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan |

2006

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Lessons learned (PolPX)

- Staged implementation helps with quick time to market
- Be involved at all stages of the project and during the support period
- Plan resources for initial period of support
- Advantage of single vendor vs. subcontractor relations
- Plan for system improvements, you're bound to need them
- Keep good ongoing working relations

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Lessons learned (NASDAQ OMX)

- Product vs. custom development approach

- Value of earliest possible user training and hands on

- Value of business-to-technology knowledge linkage

- Budget for change vs. requirement analysis cost

- Single vendor advantages in case of contingencies

- Implementation work continuous also after the go-live date

- Communications required to make the project and support agreement work

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Trends in commodity markets

- Major upturn in commodity trading volumes
  - Commodities uncorrelated or negatively correlated to traditional asset classes
  - Impact of financial crisis remains to be seen

- Increasing level of competition
  - Startup marketplaces and alternative trading venues being established
  - Existing marketplaces mergers
  - Commodity derivatives integrated into existing financial exchanges
  - Cross margining of positions in different asset groups, products and markets

- Alternative modes of trading
  - Still small to mid sized trading volumes but large scale in other aspects
  - Algorithmic trading also in commodity markets, increased order to deal ratios
  - Introduction of "exotic" products (weather, gas and power derivatives, emissions)
  - Growing demand for exchange traded products
  - Clearing of bilateral (OTC) trades, Clearing revenues gaining importance

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