



# EU Workshop – risk management issues in commodity trading

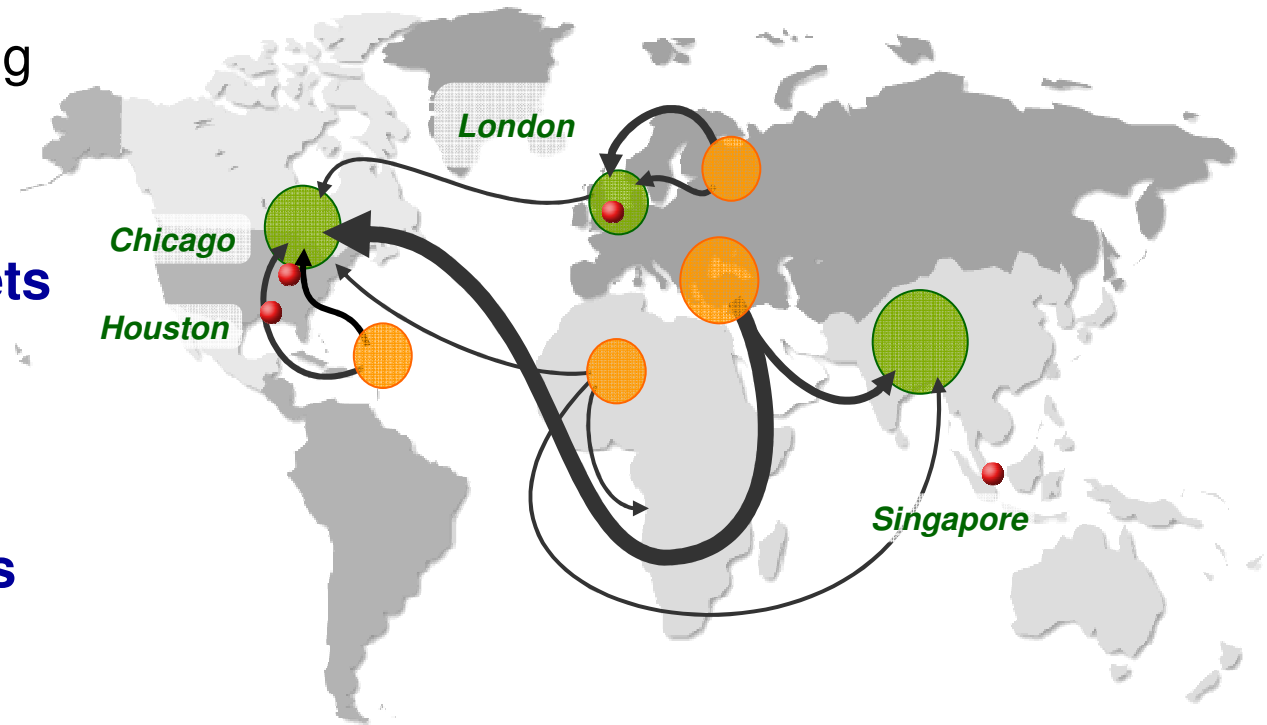
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September 2006

# Introduction to IST



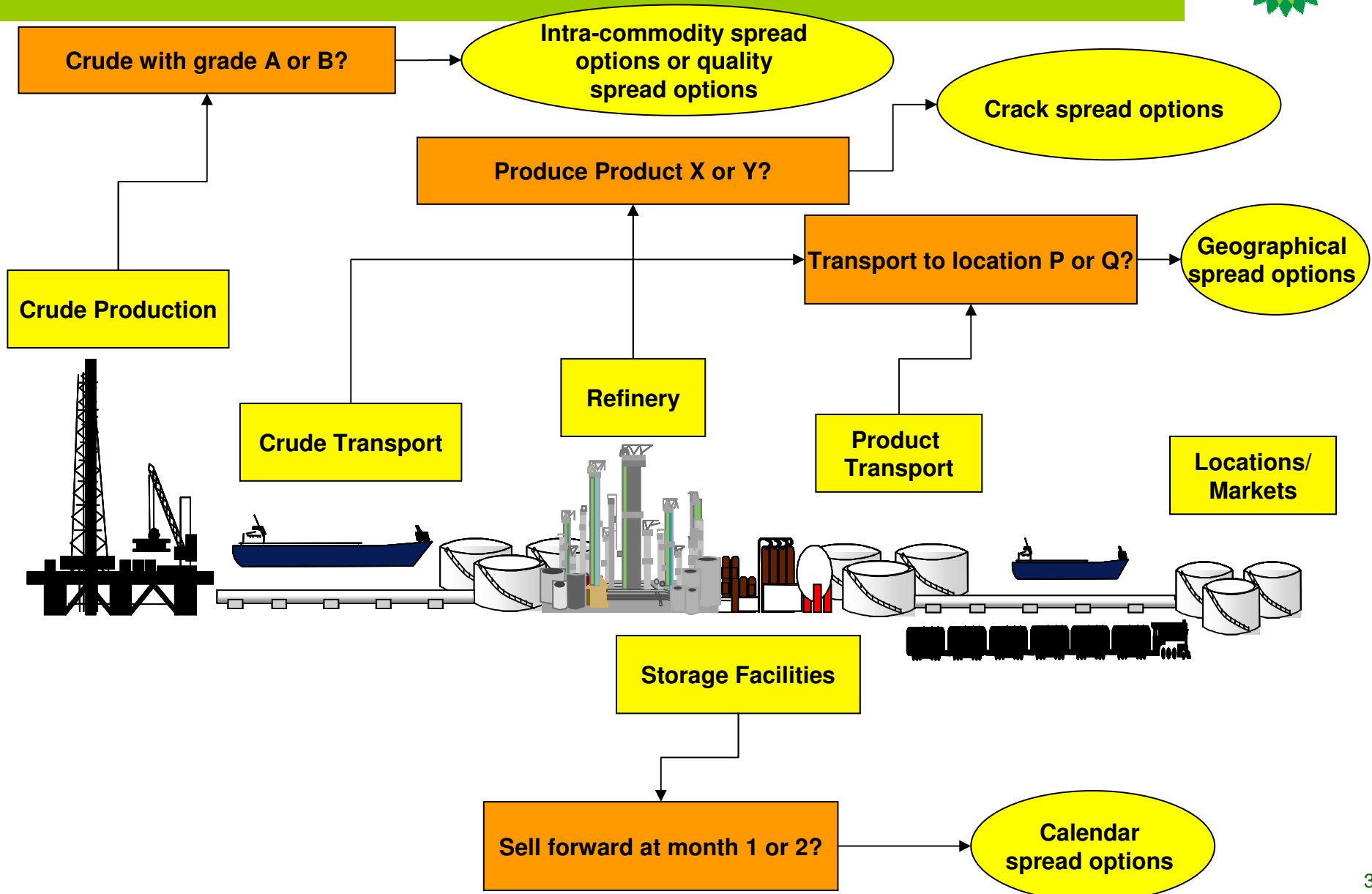
IST's purpose is to enhance the Group's performance through supply and trading across the whole value chain:

- **Optimising BP's assets** by securing optimal supply and off-take;
- Engaging in controlled **trading around assets** and supply positions;
- Applying **risk management** and commercial expertise



4,000 employees and contractors, operating from 35 offices in more than 20 countries

# Location, time, quality: physical dimensions



Example: a European refinery needs crude...  
source how far away? when required? what spec?



# Summary of relevant issues...



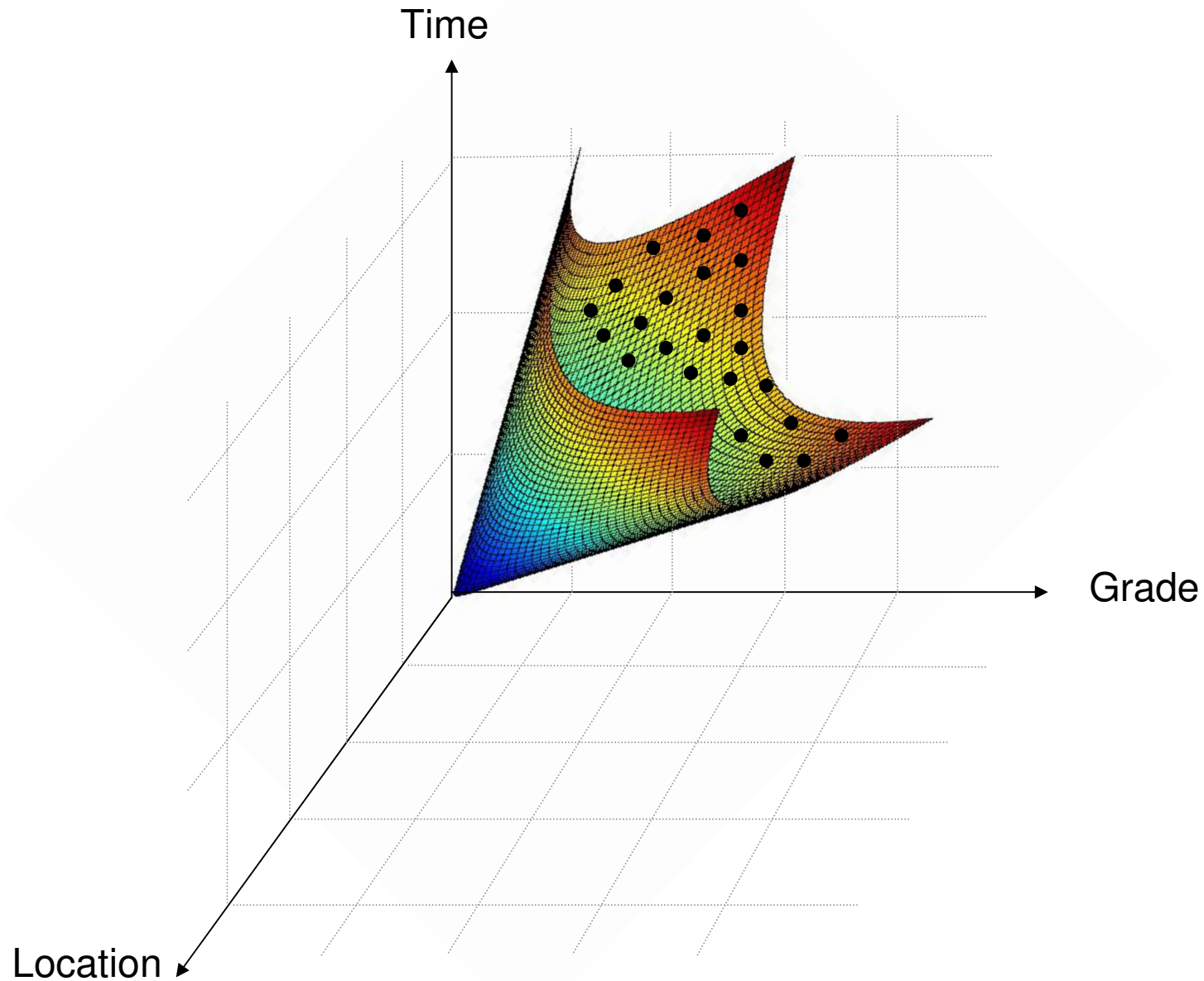
- Arbitrage with "frictions"
- Frictions plus relative illiquidity give rise to e.g. volume limits
- These frictions also result in fragmented, localised markets for well-specified products e.g. various grades of crude.
- A price is not the only determinant of best execution - also need to consider speed, ability to fill, likelihood of delivery, etc.
- Finally, the physical delivery infrastructure considerations influence risk management – market, credit and operational risk (e.g. bad weather).

# Consequences for risk management...



- You still have the usual risk management categories:
  - Market risk
  - Credit risk
  - Operational risk
- But supplemented with physical/volume limits
- Also term limits due to illiquidity etc.

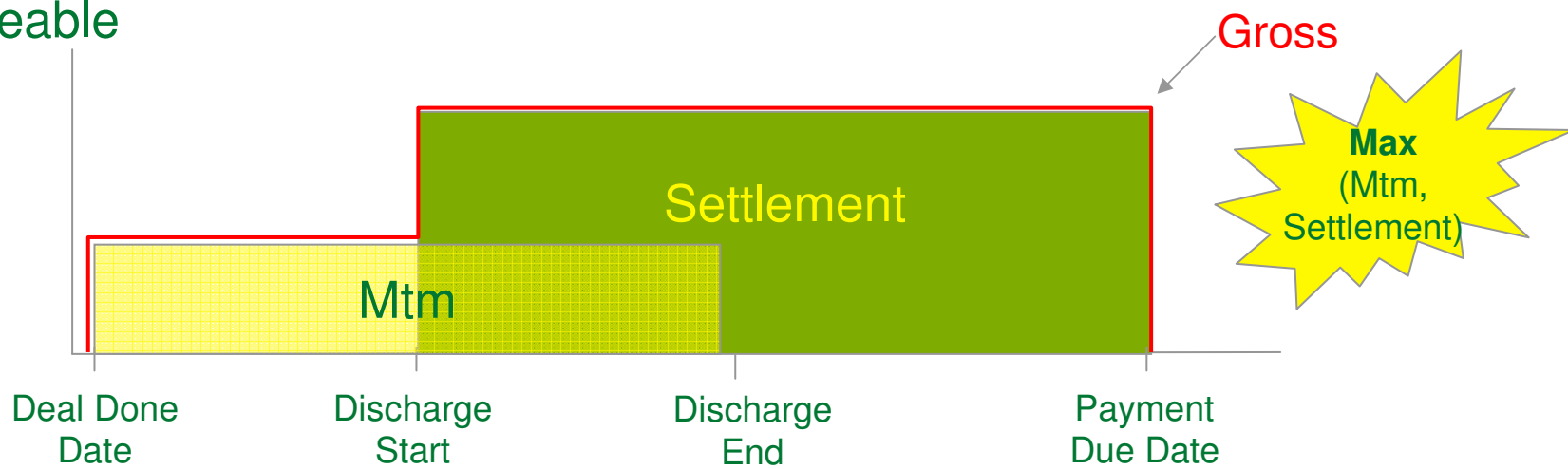
# Market risk: “price” determined by quality, term structure and distance



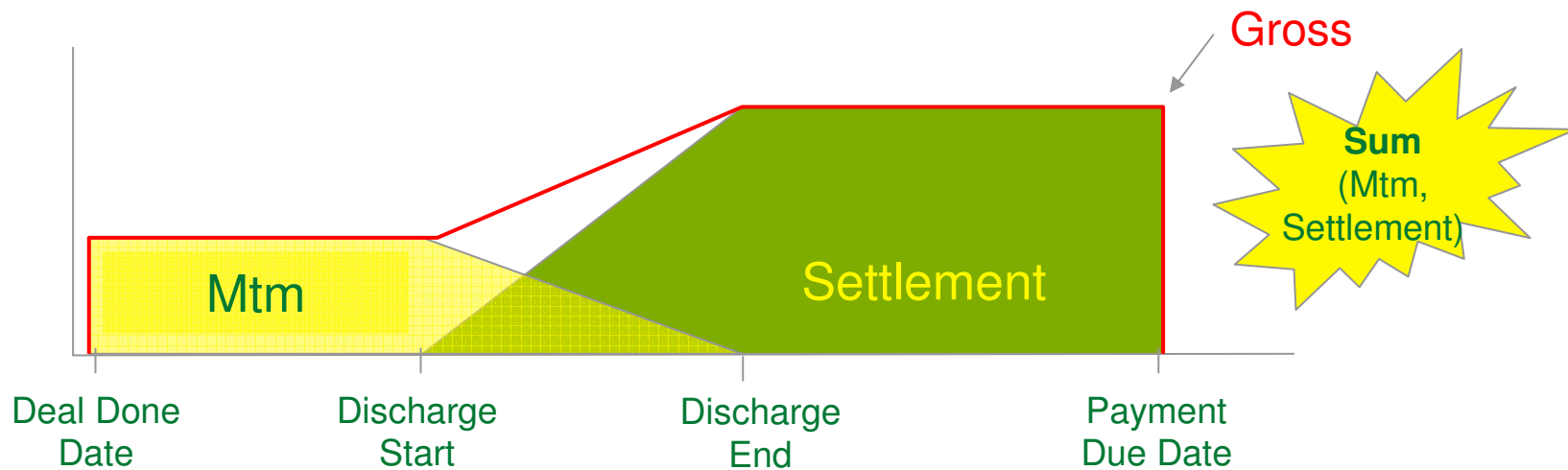
# Credit risk: non-rateable and rateable exposure



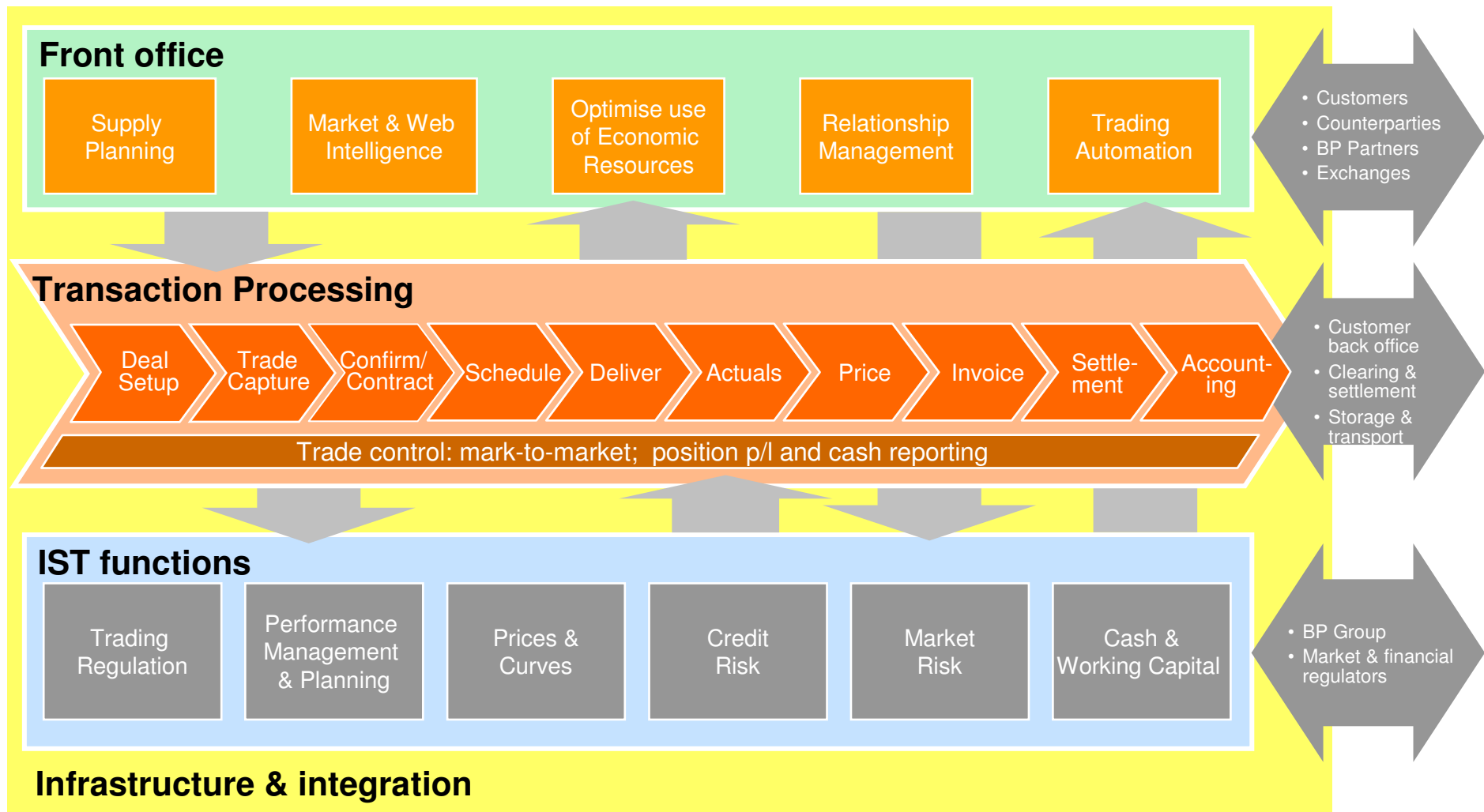
## Non-Rateable



## Rateable



# Operational risk: transaction processing and movement of product must stay synchronised



# Conclusion: physical delivery affects all aspects of risk management...

