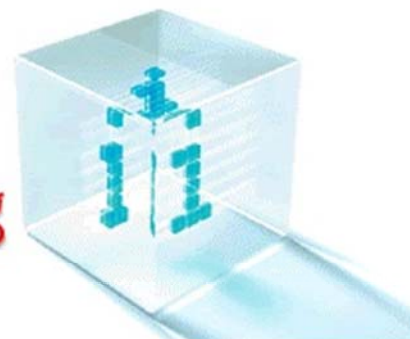


# Data Integration in the Life Sciences

understanding  
information



“Data Integration in the Life Sciences”  
Bio-IT World, San Diego, CA, November 12-14, 2002  
Discussion Moderator: Bernard P. Wess, President

# Panel Members

- PERSEID Software, Moderator
- Johnson & Johnson
- EMC Life Sciences
- TRW Healthcare Solutions
- Lion bioscience
- 3<sup>rd</sup> Millennium



# Presentation

- Integration: A Shareholder Value Assessment
- Operational Value of Data Integration
- Question Session



# Shareholder Value of Information

- \$800 Million for a new pharmaceutical (Tufts University)
- 10 Years of Development (120 Months or \$6.67M/Mo)
- Hypothetical New Drug A = \$50M/Mo Sales (\$600M)
- Merck Example (01/06/2002)
  - P/E Ratio 19.13
  - Net Income 15%
- Shareholder Value of One Month Sales
  - \$50M Sales \* 15% Net Profit \* 19 P/E = \$142M/Mo
  - Stock Market Values Each New Month at \$142 Million of Value
- Each extra month of sales is worth \$142M to Shareholders
- Each month of R&D saved is worth an additional \$6.67M to Net



# Enterprise Operational Value

- Integration of R&D, Marketing, Sales & Clinical
- Better compliance and faster approval
- Flexible and adaptive decision making
- Allows predictive modeling for sales and R&D
- Monitor markets, threats & competition
- Better allocation of resources and partners
- Enables electronic eCRM for patients
- Real-time management review and iteration

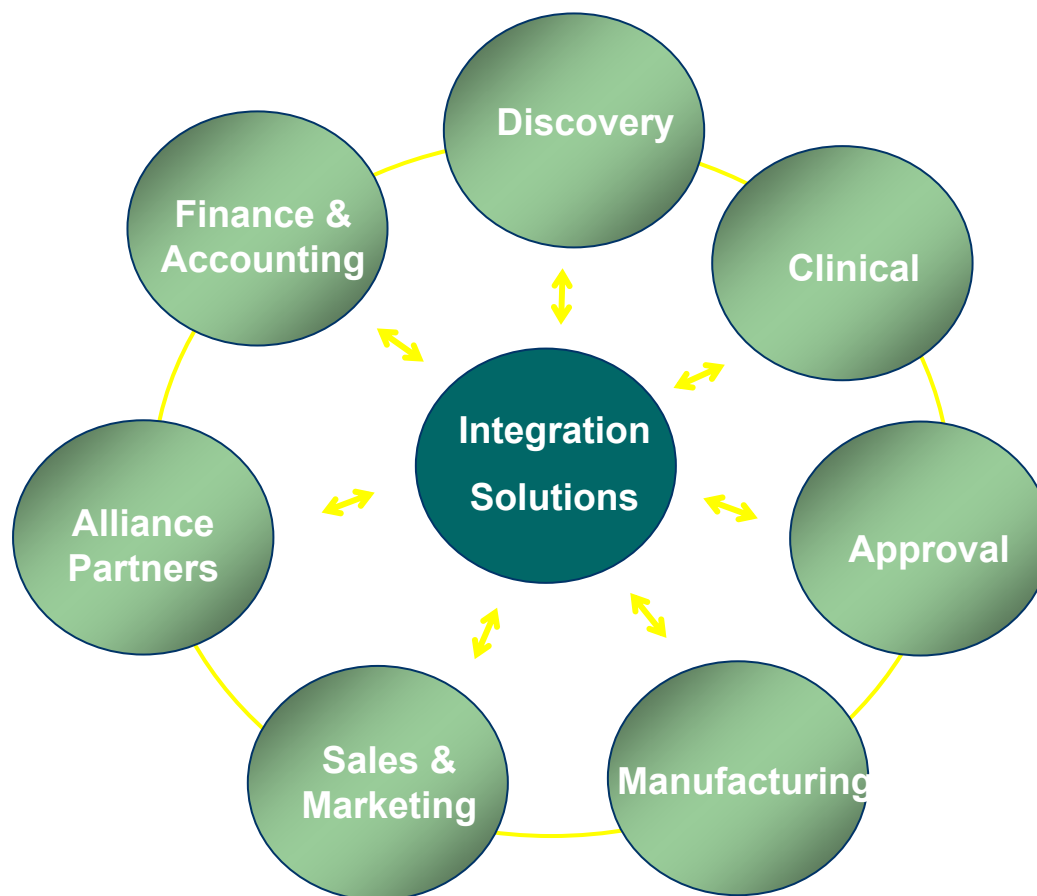


# Critical Success Factors

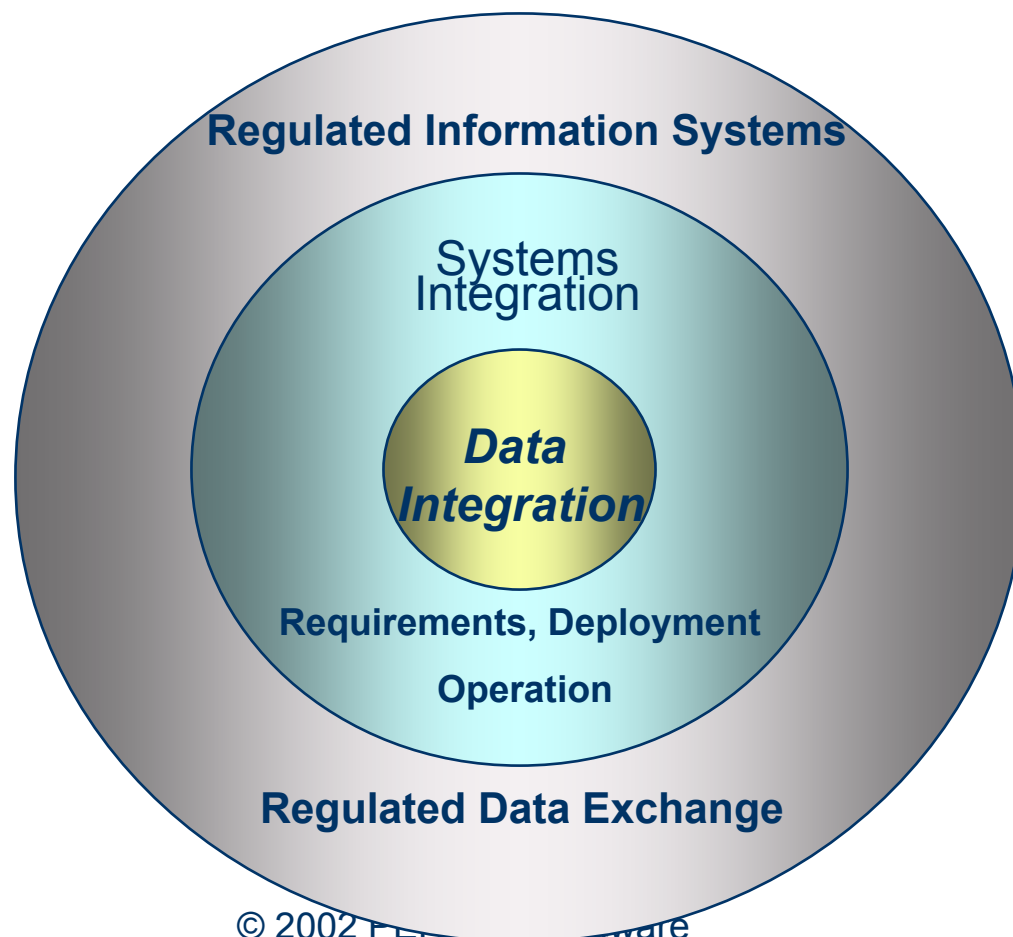
- Know Your Requirements
- Have Strategic and Engineering Plans
- Meet Demands of Regulated Systems Market
  - 21 CFR §11, HIPAA, EMEA
- Realize:
  - Data Integration is a Business Problem
  - Data Integration is a Systems Integration Problem
  - Regulated Data Exchange is as important as integration
- Use Prototypes and Engineering “models”
- Ship solutions “early” and ship “often”



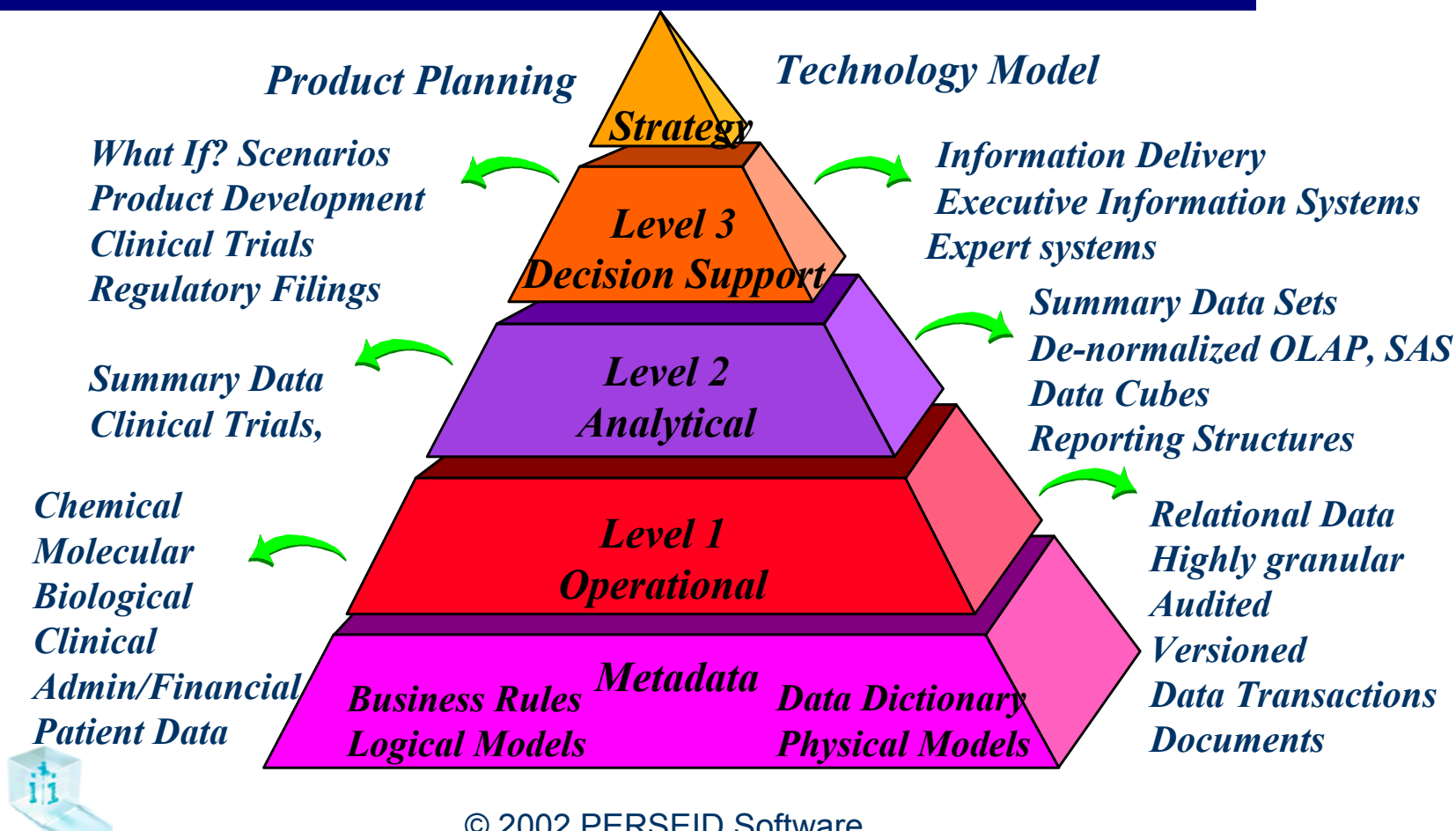
# Integration Means Shared Knowledge



# Integrated Information in a world of regulated systems



# A Data Architecture for the Life Sciences



# Questions to Ask

- Do I need document and data integration?
- Can I integrate transactions and/or summaries?
- One or many data warehouses or databases?
- How do I merge my data sources to identify entities?
- How do I track history and modifications to data and documents?
- How do I sequence my requirements against deliverables? and get started?
- How do I secure the access and control?
- How do I audit and recover?



# How to Be Successful

- Know your Customers & Requirements!
- Have a senior management sponsor
  - Use internal and external partners
- Remember real-time computing is about delivering solutions early and often
  - Pick one solution and deliver it on-time
- Develop incrementally
  - Buy everything you can, e.g., data models & tools
- Focus on *Shareholder Value* first, then technology



# What To Do & Avoid

- Gather *all* requirements into a database
- Go real-time as soon as possible
- Avoid the “virtual” warehouse trap
- Focus on developing a defensible schedule
- Don't wait for all the data and documents---get started with what you have available now
- Focus on cleaning, identifying and merging keys
- Data must be valid, reliable and useful for management
  - Think globally
  - Think security and reliability
  - Focus on data exchange and analysis



# Resources for Your Team

- Perseid Software Web Site
- Whitepapers on Life Sciences
  - PricewaterhouseCoopers Whitepapers
- Software supplier web-sites
  - IBM, Oracle
  - Lion bioscience
  - 3<sup>rd</sup> Millennium
  - TRW Healthcare Solutions



# PERSEID Software Limited

Contact: Bernard P. Wess, Jr.  
(781)453-2351

[www.perseidsoftware.com](http://www.perseidsoftware.com)

[BWess@perseidsoftware.com](mailto:BWess@perseidsoftware.com)

Needham, MA, USA