



## **Operational Excellence: Driving a Culture of Continuous Improvement**

September 9, 2008

- MedImmune Overview
- OE at MedImmune
- Lessons Learned & Next Steps



- 20-year old international biotechnology company
  - ◆ Worldwide biologics business unit for AstraZeneca, combining MedImmune, Cambridge Antibody Technology and AZ biologics
  - ◆ Operationally independent, strategically aligned with AZ
- Vertically integrated company from basic discovery through commercialization; revenues >\$1.4B annually
  - ◆ R&D leadership in antibodies & vaccine technologies; disease areas of ID, R&I, oncology; pediatrics
  - ◆ Established infrastructure and capabilities in development, manufacturing and commercialization

# Realizing Our Operating Model Across MedImmune and AstraZeneca

## Strategically Aligned Common Goals

### MedImmune

- Biologics
- Operating independently
- Distinct culture
- Own business practices, processes & policies

Collaboration where it makes sense

Everyone at MedImmune is empowered

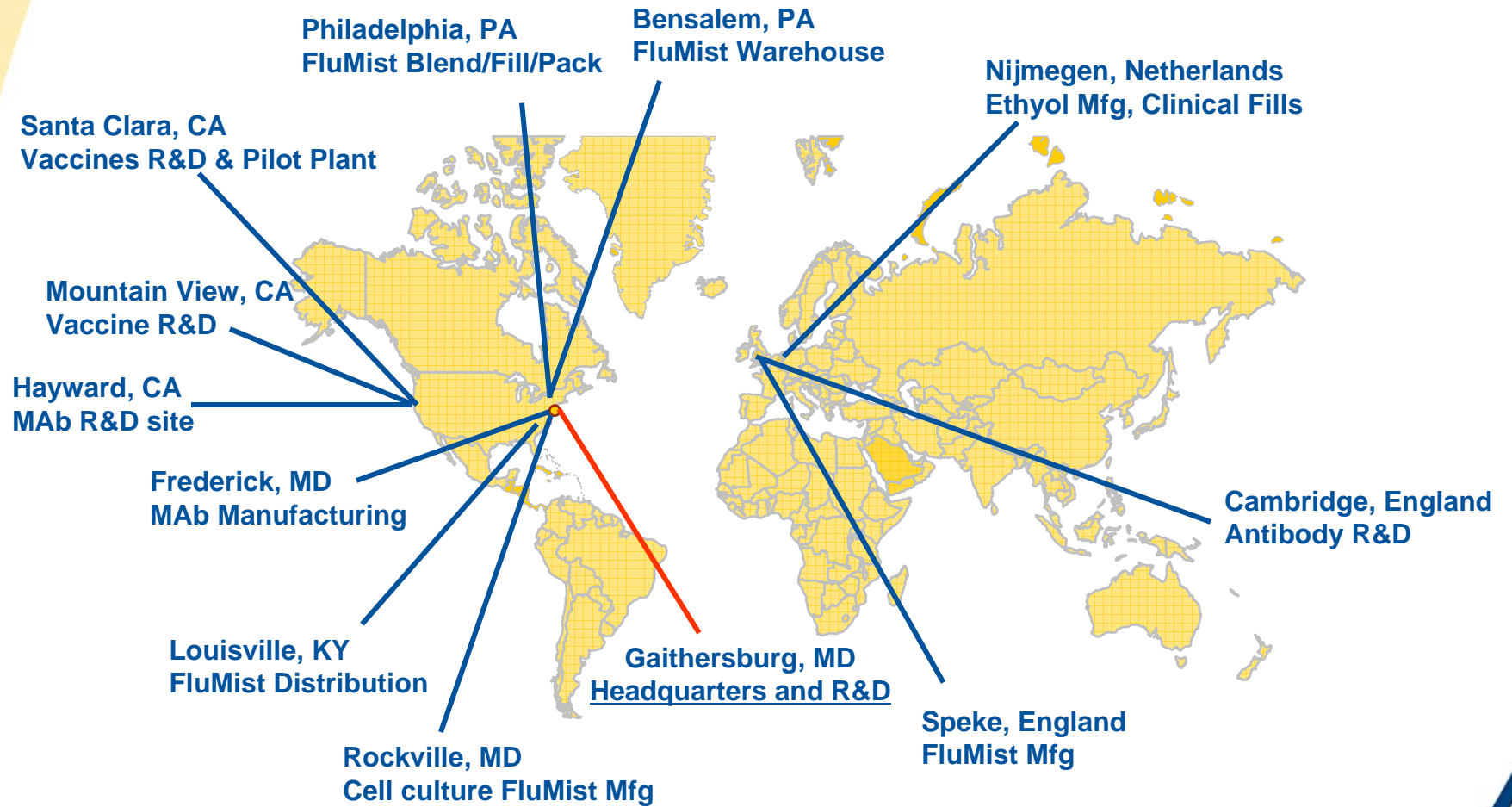
### AstraZeneca

- Small molecule
- Complementary skills and capabilities
- Global reach
- Scale advantages

Find the best way to achieve our business goals.



# MedImmune's Global Operations

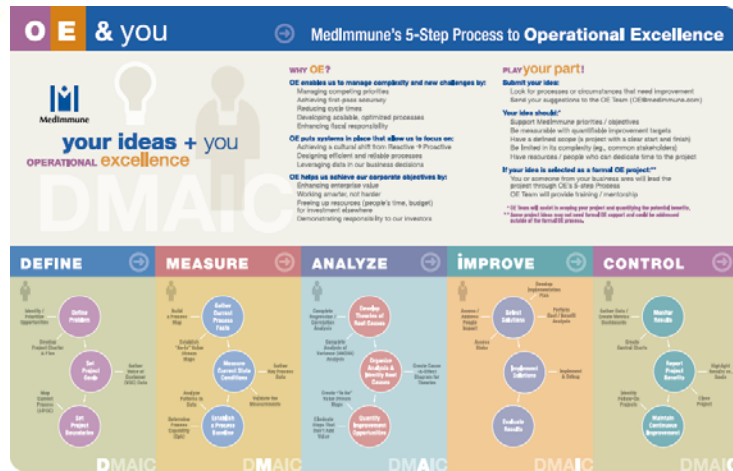


# Operational Excellence at MedImmune

- Drive a Right First Time / Right From Me attitude
  - ◆ Establish linkages between an individual's actions and company results
  - ◆ Measure performance and drive continuous improvement
  - ◆ Connect process efficiency improvements to tangible business benefits
- Create efficiency and consistency in our processes
  - ◆ Empower the operating sites and functions to identify and drive improvements
  - ◆ Improve the organization's cross-functional alignment
- Develop a partnership between the OE Team and staff
  - ◆ Training, mentoring and consultation provided by the OE Team
  - ◆ OE & you → together we can drive change

**Grass roots effort establishing a continuous improvement mindset to drive business results**

# OE Messaging and Approach



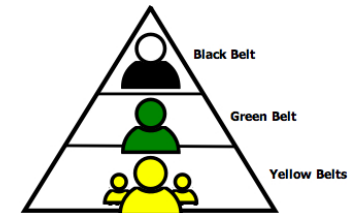
- Active involvement to drive positive change

- Accountability and ownership

- In-house training

- Green Belt

- Yellow Belt



- Lean Six Sigma and change management modules

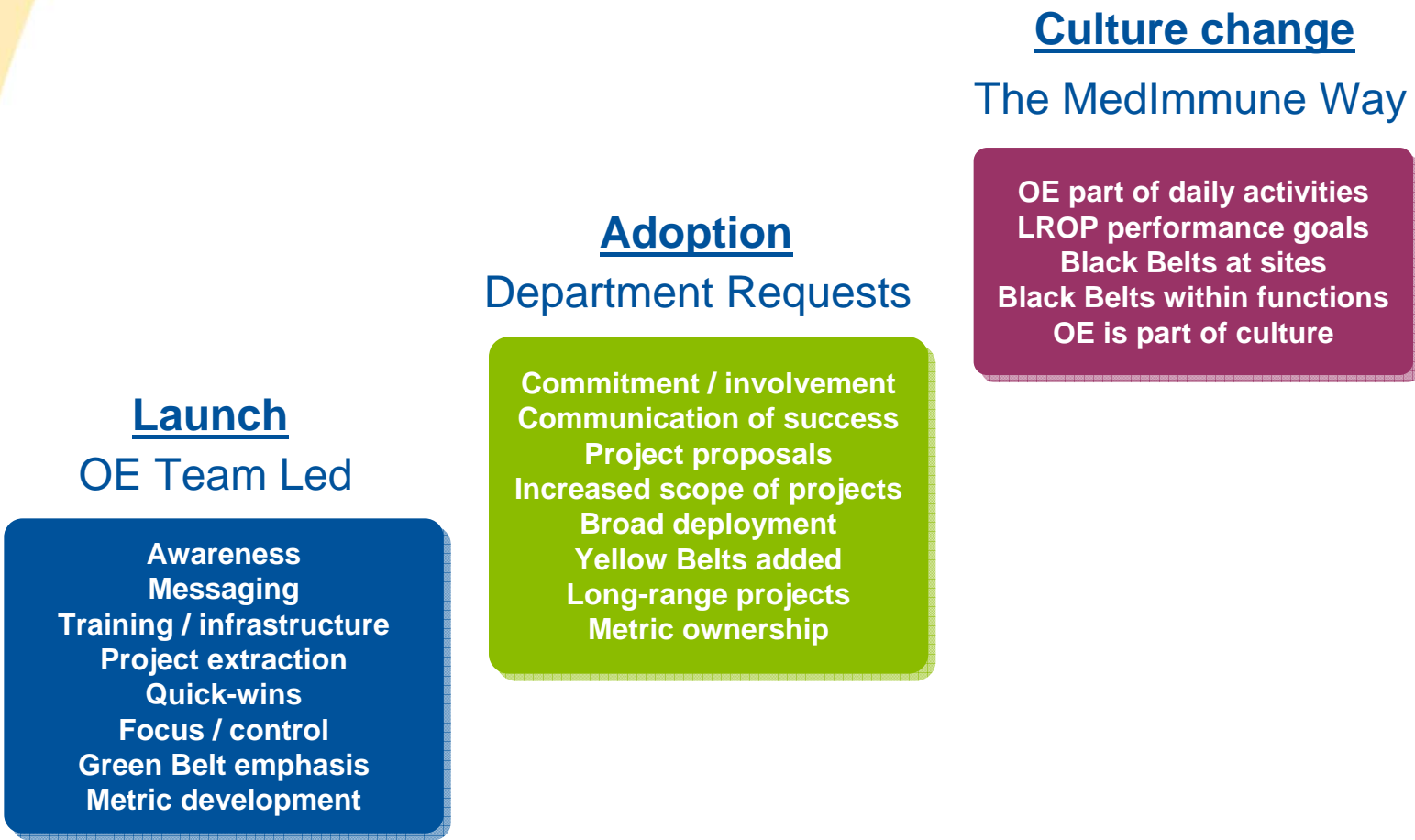
- Initial Operations focus with staged expansion

**Business results have driven interest in OE activities / support across the organization**

# Various Methods Utilized to Drive Commitment

- Demystify OE tools / methods
  - ◆ Emphasis placed on Lean approaches / messages
  - ◆ Case studies grounded to real-world examples
- Engage the organization in OE activities
  - ◆ Utilization of Kaizen events to involve functional areas
  - ◆ Opportunity to present OE tools in interactive exercises
- Simplify the message to issues that are real / visible
  - ◆ Utilization of 5S in laboratory and office environments
  - ◆ Team activities that encourage involvement
- Demonstrate measurable results

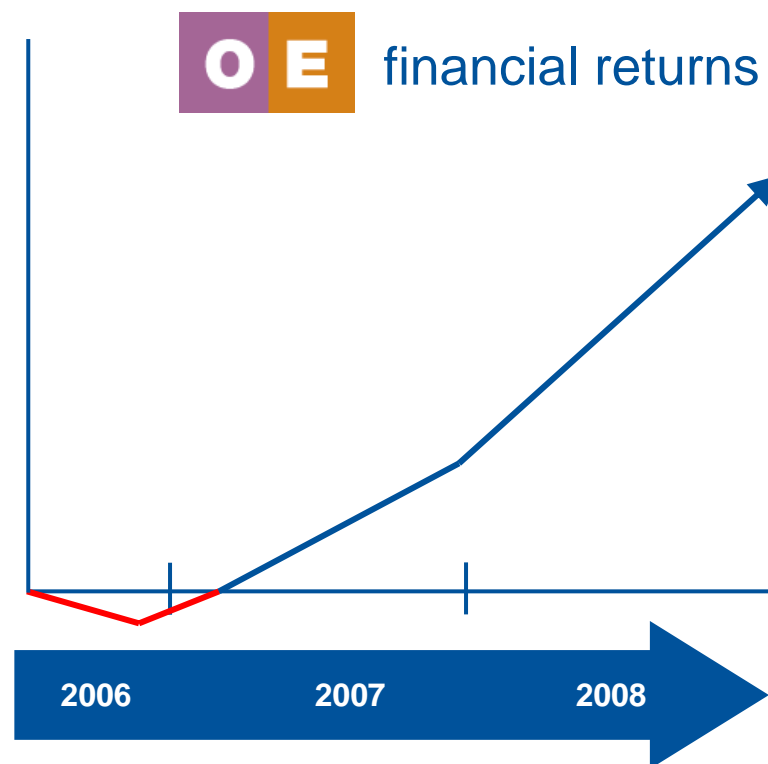
# Progression of OE Adoption at MedImmune



**OE program at MedImmune has progressed from the Launch phase to corporate Adoption**

# “Pay as you Go” Approach Employed

- Investment in program has been tied to phase of deployment
  - ◆ Launch / implementation
  - ◆ Adoption / expansion
- Tangible benefits realized
  - ◆ Increased yields
  - ◆ Process waste reduced
  - ◆ Capital expenses avoided
  - ◆ Process efficiencies increased
  - ◆ Quality improved



**Greater than 10X in financial benefits realized**

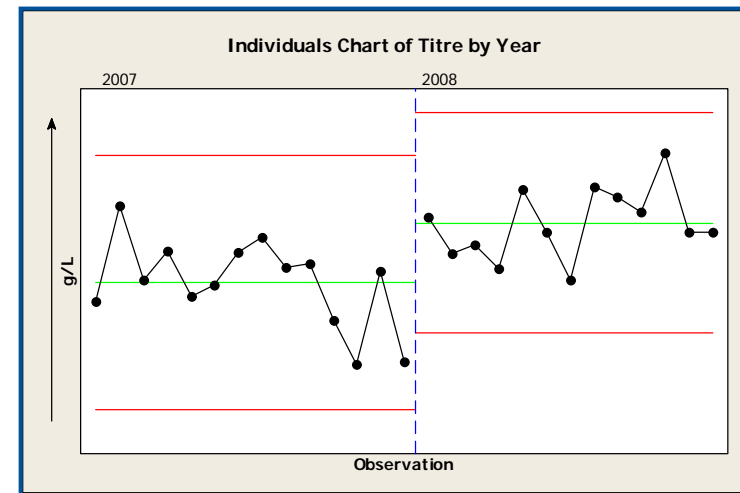
# Training and Mentoring

- Green Belt training conducted in waves during the year
  - ◆ Targeting 10% of organization trained as Green Belts
- Yellow Belt training conducted regularly
  - ◆ Targeting 80+% of organization trained as Yellow Belts
- Both are expected to deliver tangible projects
  - ◆ Green Belts assigned to formal OE projects
  - ◆ Yellow Belts required to identify and drive small improvements in their own workspace
- 5S and tools training conducted regularly

# Case Study: Process Yield Improvement



- In-depth process analysis of bioreactor yields and inputs
- KPIV isolated
  - ◆ Historical data analysis
  - ◆ Development production studies
- Successful process changes implemented and controlled



# Case Study: Process Optimization & Cycle Time Reduction



- QC laboratory analysis
  - ◆ Testing constraints / cycle time
  - ◆ Process mapping
- Opportunities identified
  - ◆ Concurrent scheduling
  - ◆ Documentation accuracy / clarity
- Leveraging in other QC labs

**50% reduction in cycle times and process optimization / error reduction**

# Case Study: Workplace Organization within Common Storage Area



- Efforts initiated to drive 5S within labs
- Organization and standards for common storage area
  - ◆ Duplication of stock materials
- Easier, visual management of stock inventory
  - ◆ Ownership established
  - ◆ Refrigerator space constraints removed



# Case Study: Lab Equipment Optimization



- Evaluated day-to-day process for waste
  - ◆ DOTWIMP
- Opportunities identified to improve certain steps
  - ◆ Queues in the process
  - ◆ Long wait times for results
- Challenging status quo
  - ◆ Eliminating activities
  - ◆ Alleviated a process bottleneck

**O E**

**46% process time improvement and capital avoidance**

- Establish the overall strategy / message and adhere to it
  - ◆ Sponsorship and alignment is critical
- Individualize your approach to your customers
  - ◆ Determine what their most pertinent issues are
  - ◆ Be flexible – use your VOC
- Find the early adopters / pioneers
  - ◆ Recognize and reward them
- Keep case studies relevant and the message real
  - ◆ In-house training provides a company face to the program
- Avoid the tendency to “boil the ocean”
  - ◆ Patience and grounded expectations are critical

## Next Steps for OE at MedImmune

- Communicate clear improvement goals each year
  - ◆ OE efforts aligned to help the organization achieve them
- Establish imbedded OE Black Belt support
  - ◆ Staged implementation tied to maturity
  - ◆ Balance centralized and decentralized support
- Leverage OE involvement as part of talent management
  - ◆ Training / certification as part of career development
  - ◆ Continuous improvement mindset as part of next generation of leaders

**OE** & you → together we can drive change

