Bottling Lines Under the Microscope

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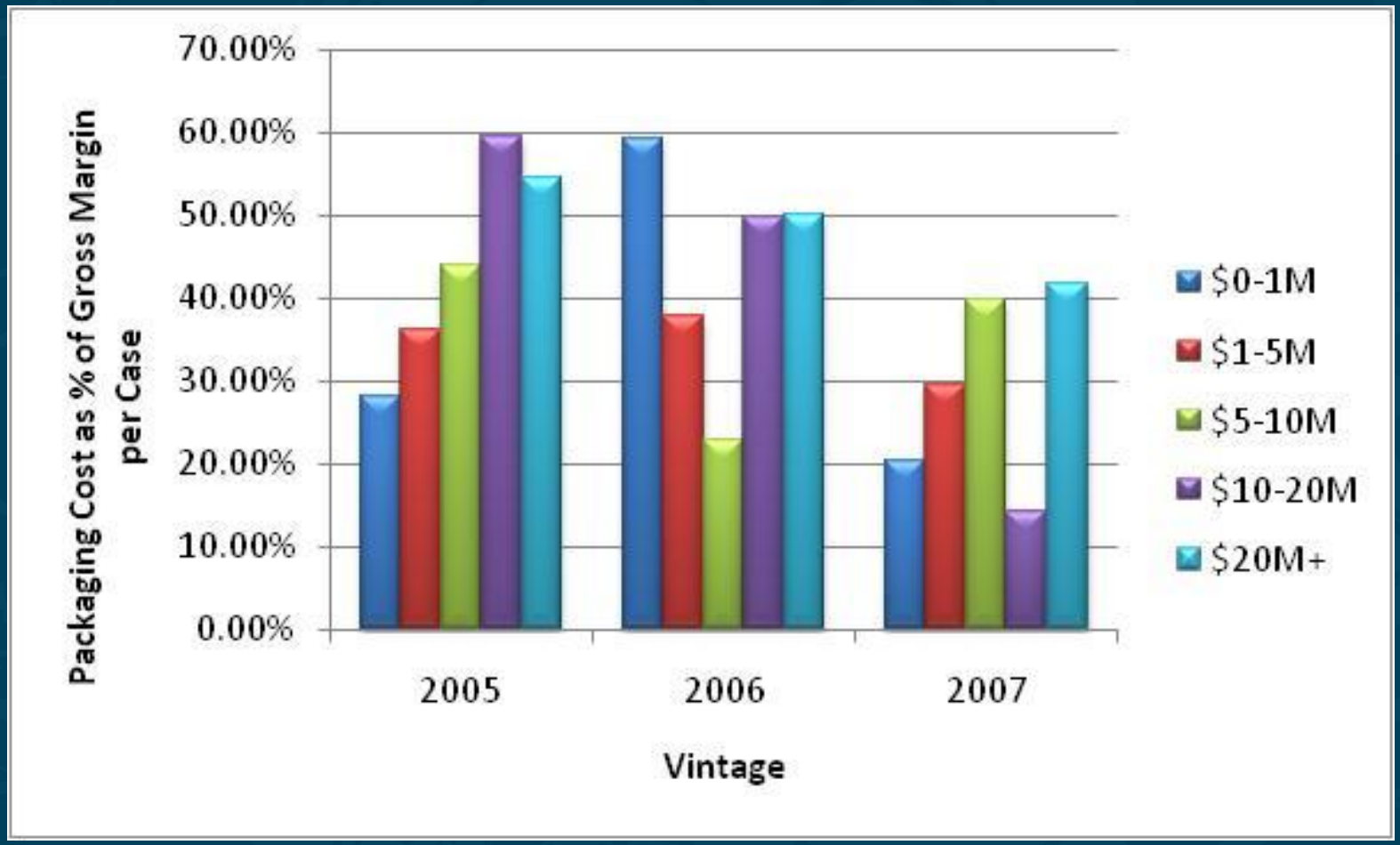
Presentation Prepared by Neil Scrimgeour



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Bottling Line Evaluations

- Review performance of New Zealand bottling lines:
  - →Marlborough
  - →Auckland
- Compare commercial and contract operations
- Compare NZ performance with Australian
- Identify improvement opportunities

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Bottling Line Evaluations

- Observational analysis
- Gather performance metrics
- Assess impact of supportive business processes
- Identify operational bottlenecks
- Qualification of product & efficiency losses

→Identify appropriate tools and techniques

→Identify operational benefits

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Efficient Manufacturing

Don’t join them, beat them.

What is Efficient Manufacturing?

- Focuses on the customer
- Minimal waste and added value
- Integrated supply chain
- Business processes benchmarked (data-driven decisions)
- Continuous improvement
- Resources fully utilised
- Stocks minimised

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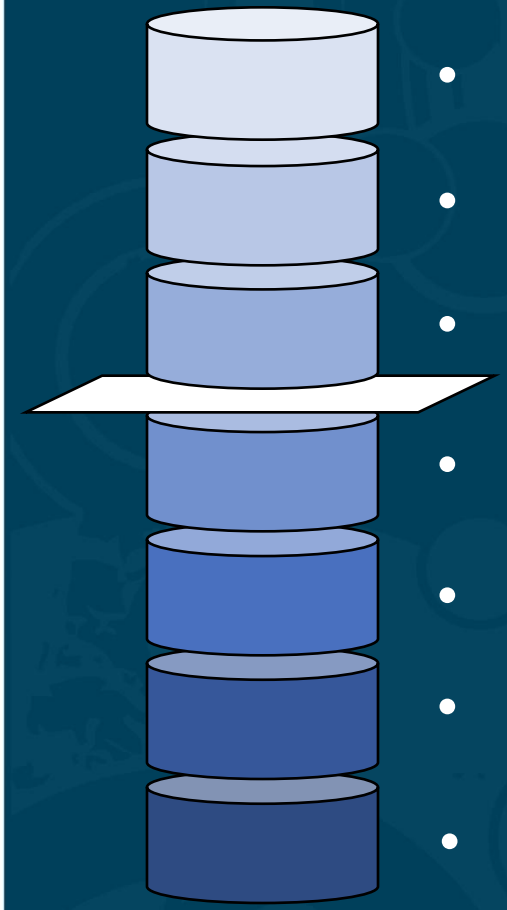
Benefits of Being Efficient



- Operational flexibility
- Inventory reduction
- Production cost

Primary opportunities (continuous innovation)

- Asset utilisation
- Increased throughput
- Defect & re-work reduction
- Lead time reduction

Primary benefits

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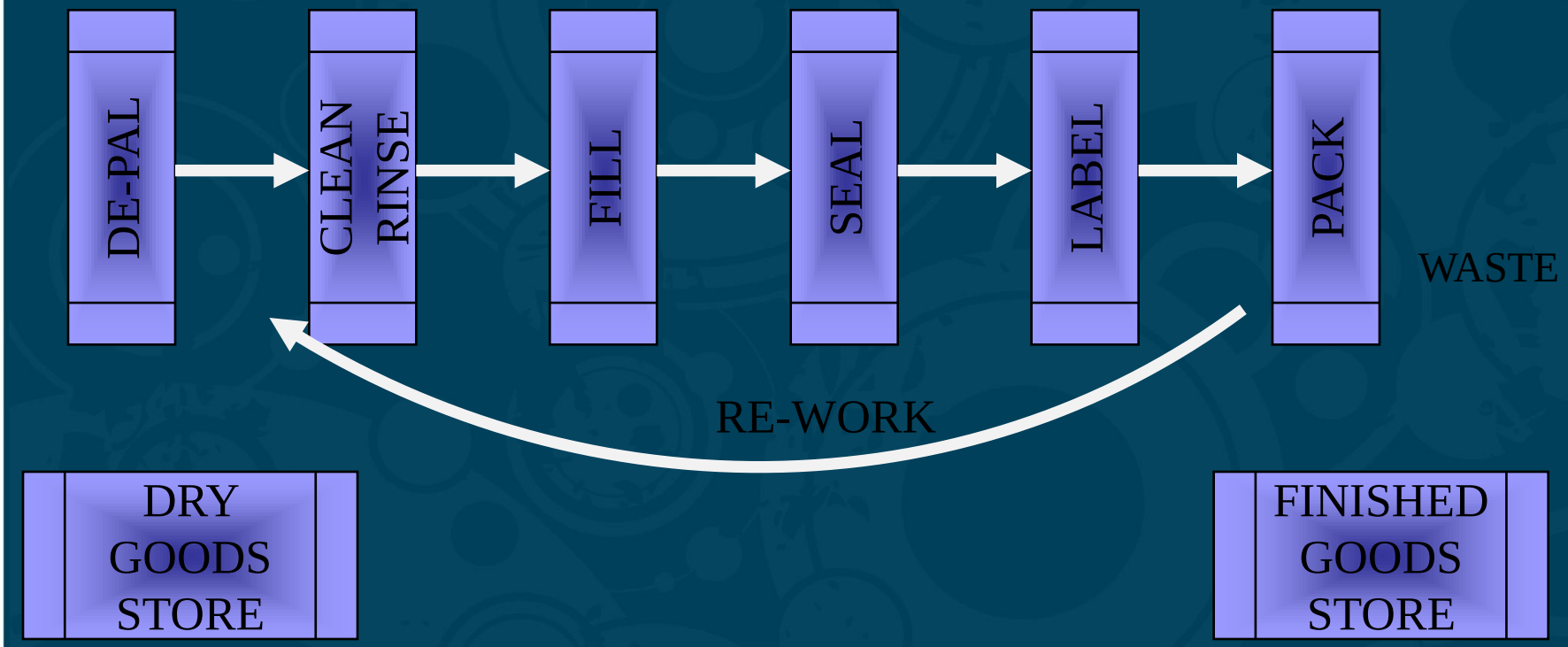
Typical Bottling Line



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Key Comparisons

Commercial vs Contract

More effective control of down-time

Better management of change-overs

More efficient scheduling & planning

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Key Comparisons

Australia vs New Zealand

Better management of dry goods

Reduced complexity of product lines

Better control of headspace

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Key Opportunities

- Reduce complexity of products & dry goods
- Improve control of product quality
- Optimise scheduling and planning
- Improve management of dry goods, wine & finished products
- Reduce frequency of intermittent line stoppages - wasted raw materials and product
- Optimise use of labour
- Improve management of change-overs

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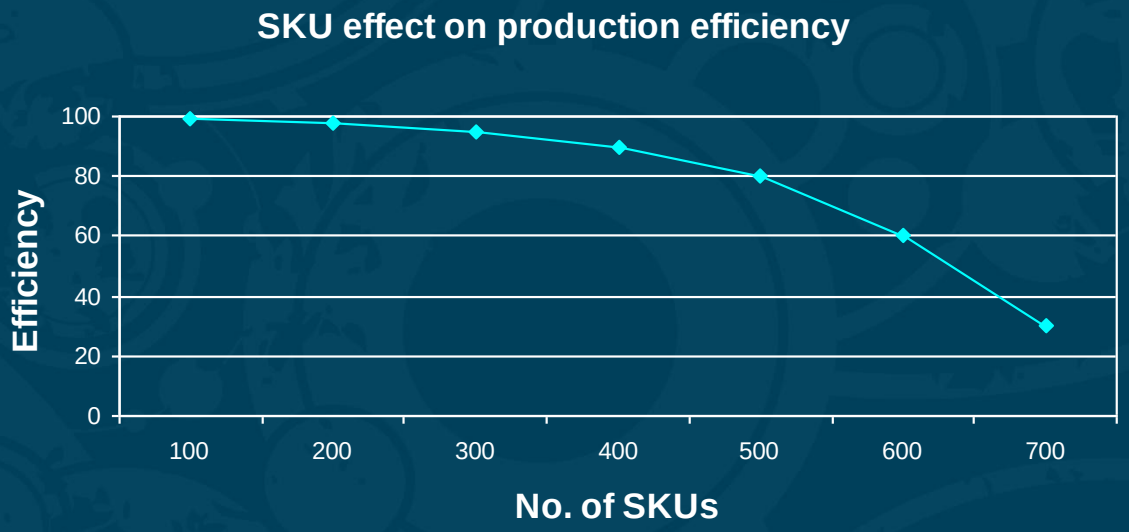
Improvement Opportunity 1

Increase flexibility through reduction of line down-time

Decrease intermittent line down-time

FOCUS

- Reduce complexity of operations
- Reduce errors, stoppages
- Improve utilisation of labour



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Improvement Opportunity 1

Increase flexibility through reduction of line down-time

Improve product line change-over times

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- Improved asset utilisation
- Increased value-adding time
- Improved OEE

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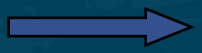
Improvement Opportunity 1

Increase flexibility through reduction of line down-time

- Decrease intermittent line down-time
- Improve product line change-over times



- Increased capacity 20-30%
- Reduced unit cost
- Increased asset utilisation
- Right-first-time production >98%

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Improvement Opportunity 2

Improve links between marketing, scheduling, distribution and bottling operations

More flexible scheduling

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- Optimised sequencing
- Line balancing
- Visual control

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Improvement Opportunity 2

Improve links between marketing, scheduling, distribution and bottling operations

Make to order

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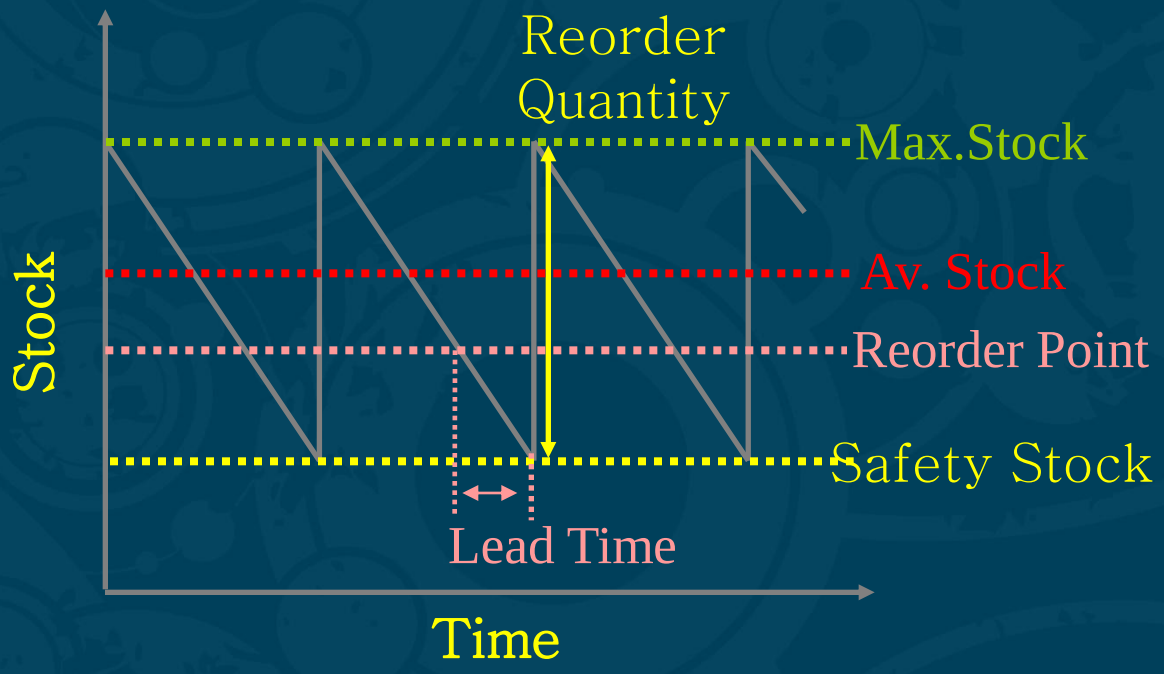
- Reduce stock levels
- Improve lead time
- Match operations to supply chain demand
- Reduce associated management costs



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Improvement Opportunity 2

Improve links between marketing, scheduling, distribution and bottling operations

- More flexible scheduling
- Make to order
- Use pull systems

- Lower inventory levels
- Reduced lead time 50%
- Increased production efficiency

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Take Home Messages

- Improve understanding of your products, customers and performance
- Link marketing, planning and logistics more closely to bottling operations
- Remove wasteful activities, inefficient processes and ineffective equipment
- Improve flexibility and value through reduction of defects/re-work and change-over times

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+ product development
+ process development
+ effective packaging
+ efficient manufacturing
+ sensory evaluation
+ analytical chemistry
+ winemaking
+ fermentation

Thank You