Driving Success, Delivering Results

Case Study: Software Enables Growth by Easing Land Restraints

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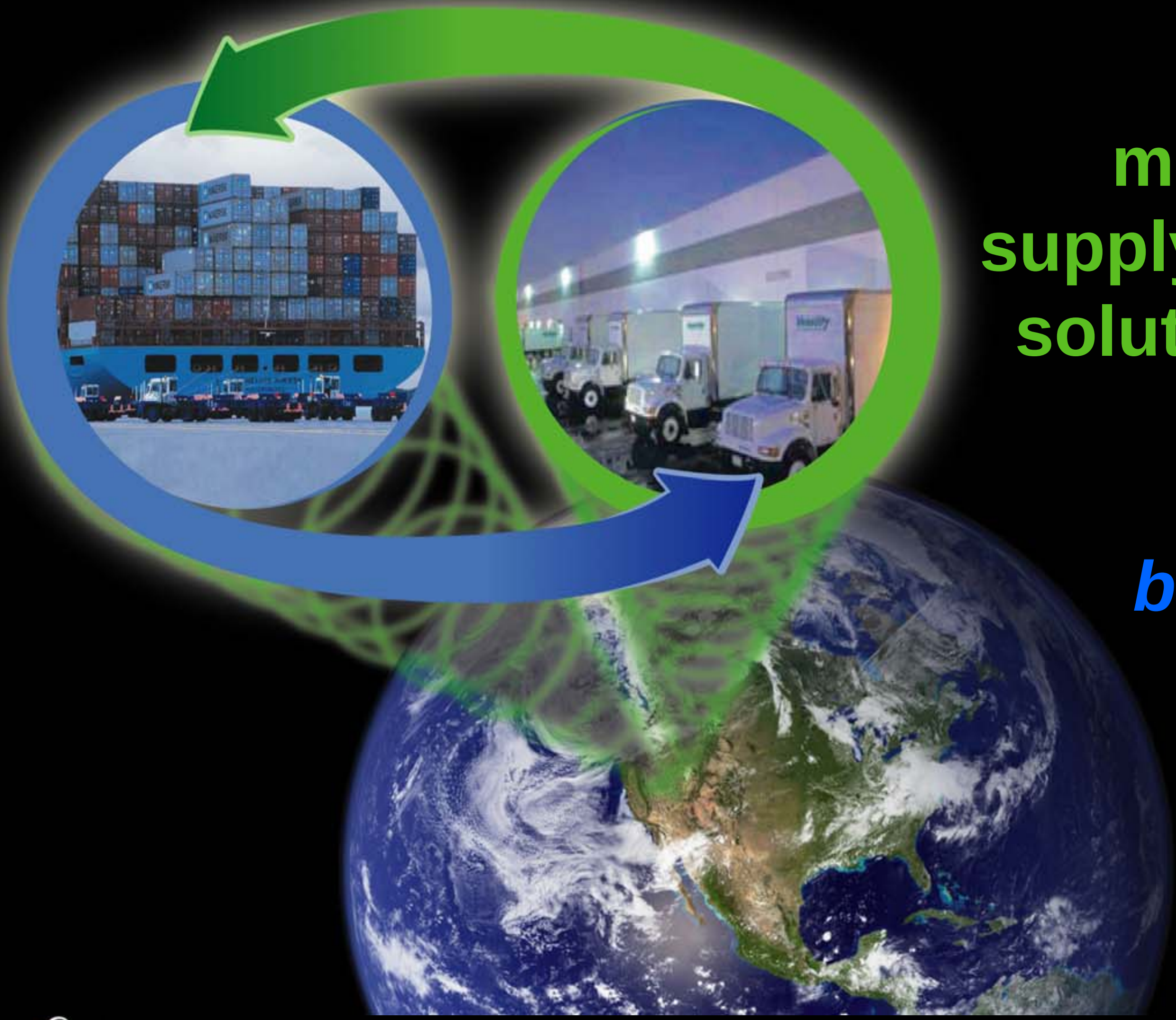
Agenda

- **Navis Introduction**

- **Case Study LSCT**

La Spezia Container Terminal, Italy

The Navis Difference



We deliver
proven,
mission-critical
supply chain execution
solutions that secure
success
and enable
best practices

Solutions Across the Logistics Network

Operations

Marine Terminals

Distribution Centers

Rail Terminals

Industries

Retail

CPG

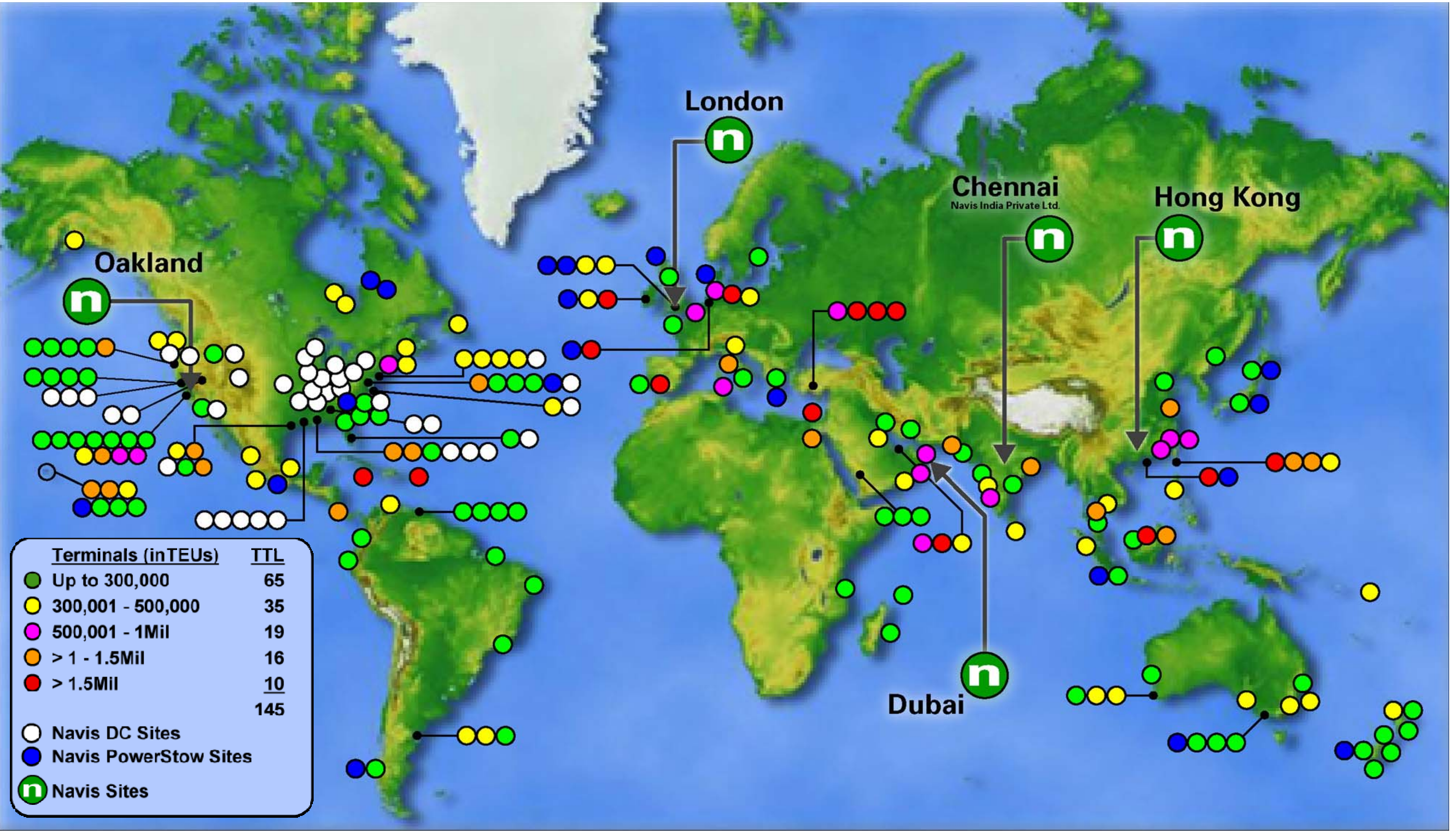
Manufacturing

Third Party Logistics

Shipping Lines

Production Tested

Navis software handles 25+% of the world's container volume



La Spezia Container Terminal

Vital Statistics:

- Location Italy, part of Contship group
- 900.000 TEU throughput
- 700 vessel calls per year
- 1500 units through gate per day
- First privately managed terminal in Italy

Navis products:

- Sparcs
- Quay Commander
- Expert Decking
- Auto Stow

La Spezia Container Terminal

Challenges

- Land constraints and high volume due to gate, vessels, and rail running concurrently
- Increase efficiency and productivity to maximize existing resources

Results

- Increased yard capacity by 200,000 TEU
- Increased throughput by 30%

"With SPARCS, our equipment usage has increased significantly and allowed our equipment to handle more containers per hour, which has cut down on the amount of idle time as well as optimized the distance traveled by equipment."
– La Spezia Container Terminal

LSCT la spezia container terminal

6 Months to Increased Yard Utilization

- Pre-Navis
  - Extremely congested yard
  - Under-utilized equipment
- Six months post- Navis implementation
  - Increased yard utilisation
  - Equipment optimization
  - Able to handle more containers per hour
  - Improved yard efficiency

"As soon as we realized that we could handle more containers we were able to accept additional requests from shipping lines that wanted to come to La Spezia"
– La Spezia Container Terminal

TEU Capacity Increases Over 30%

Need

- Automated yard planning system to track containers and find best position without mixing stacks
- Reduce rehandles and yard shifts

“By combining Navis with organizational reengineering, we have been able to increase yard productivity and usage so that La Spezia, a terminal of 280,000 sqm, is now able to handle 900,000 TEU – more containers than we ever thought possible.”
– La Spezia Container Terminal

Results

- Navis SPARCS™ ExpertDecking led to
  - Reduced rehandles
  - Increased yard productivity and usage

Optimized yard stacking

Common Practice

Space allocation is planned manually each day, based on predicted need.

Common Result

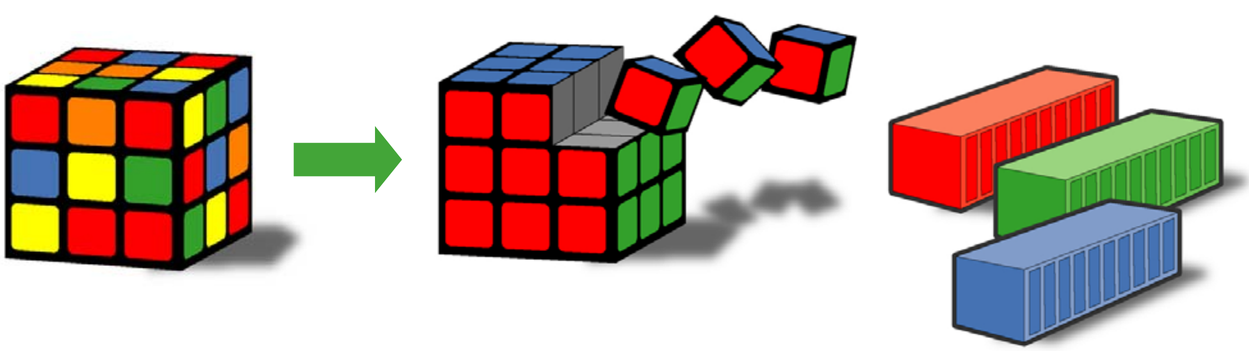
- Underutilized yard space
- Inefficient decking
- High number of re-handles
- Inability to react quickly to changes
- Inflexible strategy

Best Practice

ExpertDecking™ reviews vessel requirements, equipment types, yard constraints and business rules to assign containers to optimal positions in the yard.

Better Result

- Increased yard capacity
- Up to 90% reduction in re-handles
- Enhanced yard & equipment utilization
- Focus on strategy instead of admin



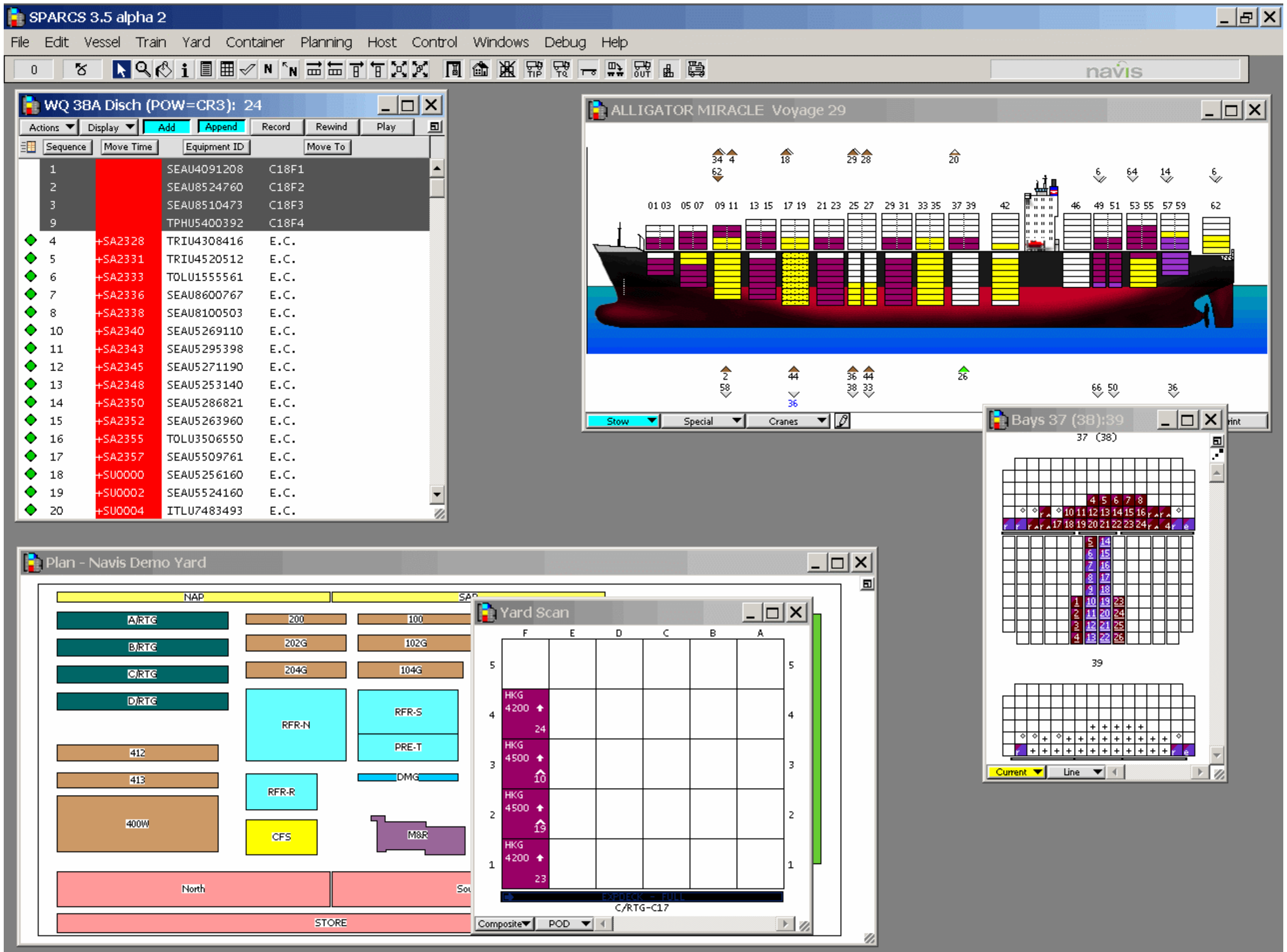
Real-time Architecture Increases Agility

- Navis SPARCS provides real-time view of terminal
  - Able to track all movement and see what is happening throughout the terminal
  - helps LSCT measure our productivity and keeps costs under control

" We can readily access the information we need, and know that it is up-to-date. It helps us see and track the movement and position of all containers in the terminal, track gains in productivity, and conversely, to see if we are losing time on a crane, or in the yard."
– La Spezia Container Terminal

Real-time Synchronous Updates

Synchronous Planning and Real-time Control System



Increased Planning Effectiveness

- SPARCS Vessel Planning enables ship and yard planners to be more productive
  - Real-time view of the terminal, container position, equipment availability
  - Concurrently plan containers coming from the rail, gate, vessel, transshipment
  - Yard and vessel plans produced quicker, more accurate

Optimized, Automated Stow Planning

Common Practice

Vessel plan is developed manually from disparate information sources with only ad-hoc consideration of current terminal constraints and environment

Best Practice

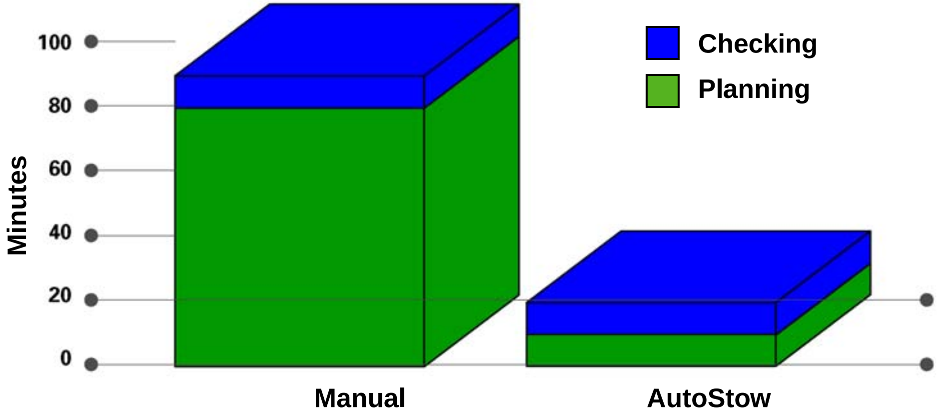
AutoStow™ combines stowage factors, e.g., type, weight, etc. with yard constraints and operating strategy to select the best container to load in real-time.

Common Result

- Long planning times
- Inconsistencies and human error
- Inability to adapt quickly to vessel scheduling & berthing changes
- Re-handles, delays and lower productivity

Better Result

- Reduced planning time by 70%
- Higher yard productivity
- Increased responsiveness to operational challenges
- Improved vessel stow plans



Employee Efficiency Increases

- Sophisticated, automated system gives drivers confidence that they are making strategic moves

  "Employees are more productive; before, crane drivers were working with a piece of paper and the radio and often had to make move decisions based on slot availability, not planning strategy. Now, with automatic dispatch to digital screens directly in the cranes, drivers can concentrate on driving, and not the context of the move."

  – La Spezia Container Terminal

Optimized Tractor/Straddle Dispatch

Common Practice

Each straddle carrier or terminal tractor services a single quay crane in a simple list-based fetch and return process.

Best Practice

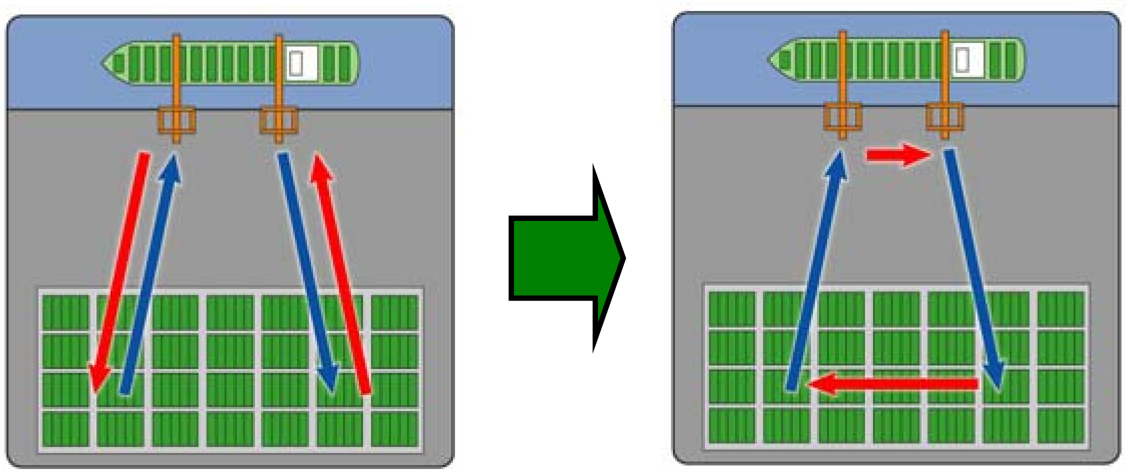
PrimeRoute™ pools equipment across cranes and optimizes work assignments based on yard & equipment constraints, and operating rules, e.g., target moves/hr.

Common Result

- Longer travel distances
- Un-laden travel
- Delays and idle time

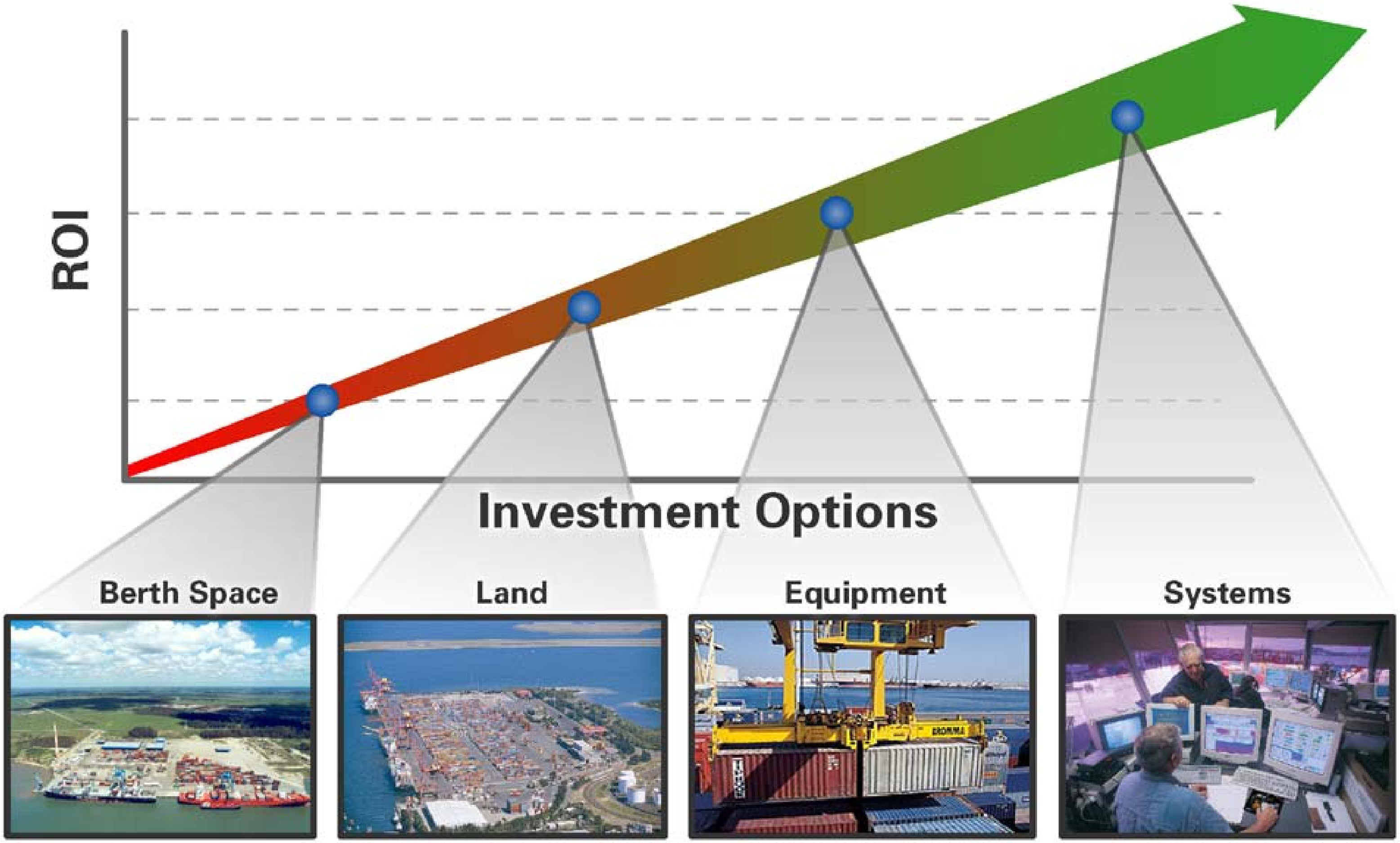
Better Result

- Up to 25% reduction straddles/tractors
- Utilization increases up to 60%.
- Lower fuel, labor and maintenance costs



High value : High leverage

Relative value of terminal investment options…



Driving Success, Delivering Results

Thank You