Leveraging Technology – Smarter Ports and Terminals in a Changing World…
D.H.Collins
Agenda

- Discuss the origins of the business at hand...
- Discuss technology as it applies to it
- Discuss how to make it work for you and your port or terminal
- Leave you with pithy sayings that also are true and useful
First constructed boats date back some 45,000 years
Fishing and transportation main uses
Concept of Navigation dates back to about 5000 years
First “carriers” date to about 4500 years ago in India
China develops a maritime culture
Phoenicians develop seafaring skills in ancient times
Greek maritime culture
Hanseatic league – Middle ages
Spanish – mid 16th century - The age of Sail 1571 – 1862
Clipper ship age
British Navy - mid 16th to WW 1
Development of the container – 1780’s to 1830’s to Malcolm McLean in April of ’56.
The Rest is history….
Key Themes you need to know about injecting technology into your port, your terminal, your work...

- **Technology is a tool** foremost to achieve your desired results...
- Like finance, you can’t time this market so don’t try...
- Since technology is a tool, it needs **attention to maintenance**
- **Factor in costs** at every point of your port or terminal operations
- **Know or model your ROI** – *repeatedly* – and act accordingly
- Assume technology needs to be **embedded as early as possible** in every project – build capacity ahead of use.
- All data isn’t information and all information isn’t knowledge and all knowledge is certainly not wisdom...
- **Communicate** internally throughout any technology project
- Consider using **existing models**, advisors, professional orgs. etc
- **Have a plan** that allows flexibility and growth and seeks leverage
Technology isn’t the problem – Process is…

- Information Technology Maxims ?:

  A poorly planned project will take three times as long as projected to complete….
  A well planned project will only take two times as long.

  Inside every application is a good idea struggling to get out

  Interoperability won’t

  Any program when operating is obsolete
**Systems are the province of human minds...**

- **Moore’s Law** (Gordon Moore – Co-Founder of Intel) Compute power doubles every 18 months to 2 years. (as defined by transistors per square inch) Remarkably accurate for over 4 decades

- **Interesting parallels** - cost of production plants doubles per every chip generation

- **Grove’s law** (Andy Grove – Co-Founder of Intel) =
  - "Technology will always win. You can delay technology by legal interference, but technology will flow around legal barriers".

- **Bloat** – Successive generations of software will grow to consume the advances of Moore’s law.
The Terminal Operations industry faces a number of challenges:

- Industry returning to growth from downturn
- Increase in Capacity required - Growth is returning...
- Consolidation activity is high among terminal operators, carriers, and forwarders.
- Enterprise Standard Processes
- Scaling of Vessels keeps increasing
- Business Resiliency and Scalability are needed to Accommodate Growth

### Industry Trends

- Higher throughput
- Land constraints, virtual containers yards
- Extended gate hours
- Introduction of Automated Container Handling Equipment (CHE)
- Providing Tracking and Visibility to Clients

### Technology

- Align IT Strategy with Corporate Business Goals
- Design Corporate IT Architecture and Implementation Roadmap
- Increased Integration between TOS, ERP, Security and Equipment Automation Systems.
- Identifying and Implementing New Emerging Technologies

### Customer Demands

- Increased Global Relationships
- Collaborative Access to Information
- Adherence to Business Scorecard indexes (KPIs, SLAs)
- All parties in the supply chain looking to drive efficiencies and reduce costs.

### Security & Regulation

- Increased political focus on anti-terrorist security and environmental issues
- Increased documentation requirements for trade compliance.
- Continued introduction of Physical Access Systems
- Balancing Security and Efficiency Goals
Understanding the supply chain and your place in it defines your operational and strategic objectives relative to all the other actors in the chain. Technology is a key tool and strategic force multiplier for you in today’s markets.
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### Global Policy & Programs
- Global Trade Facilitation Strategy
- Global Border Protection Strategy
- Industry Partner Strategy

### Emergency Preparedness & Response
- Port Facility Emergency Preparedness Strategy
- Emergency Response Planning

### Port Management
- Marketing Strategy
- Strategic Trade Planning
- Security Strategy
- Operation Planning

### Cargo Management
- Cargo Operations Strategy
- Baggage Strategy
- Transportation Security Strategy
- International Relations and Collaborations

### Traveler Clearance & Visitor Tracking
- Immigration (Visitor) Policy and Program Planning
- Citizenship Requirements, Process and Quotas
- Baggage Strategy

### Citizenship & Immigration Services
- Visit Management & Visa Compliance
- Citizenship Monitoring and Auditing
- Enforcement Operations Performance Tracking

### Intelligence & Enforcement
- Intelligence Effectiveness Monitoring
- Visitor Tracking: Visa Application (Arrival/Departure)

### Revenue & Account Servicing
- Account Servicing Strategy
- Importer Process Quality Control

### Enterprise Services
- Budget & Capital Planning
- Personnel Policy & Workforce Planning
- Privacy Policy & Advocacy

### Strategy & Planning Attributes
- Critical
- Important
- Commodity

### Management Attributes
- International Agreements
- Industry Partnership Performance Monitoring

### Operations Attributes
- External Market Analysis
- Service Innovation & Channel Management
- Joint Ventures

### Global Information Integration & Collaboration
- Global Information Integration & Collaboration

### Emergency Response Resource Management
- Critical Infrastructure Response

### Situational Awareness
- Logical Security
- Port Logistics & Operations

### Classification & Revenue Assessment (Port Charges, Duties, Taxes)
- Trade Prog Admin
- Pre-Clearance Management

### Tracking, Screening & Inspection – Vessel & Cargo
- Cargo (Import) Screening & Inspection
- Domestic Travel Security Screening

### Visitor Tracking: Arrival/Departure
- Seizures & Controlled Deliveries
- License Permit & Registration Processing

### Asylum and Refugee Management
- Intelligence Collection, Analytics, & Products
- Targeting & Selection

### Human Resource Management & Professional Development
- Departmental Accounting & GL
- Revenue Accounting & Forecasting
- Technical Reference & Knowledge Worker Support

### Global Trade Facilitation Strategy
- Important

### Global Border Protection Strategy
- Important

### Industry Partner Strategy
- Important
You are unique in your ability to provide the integrated vision that will make your terminal or port a model for the future, not just an idea…

- What does the model need from you to succeed:
  - You are operating with a detailed plan and understanding of the industry and the part in which it plays in the global supply chain and trading communities…
  - You are investing heavily in the region’s growth economically and in job creation and competitiveness…
  - You are prepared to advance pilots and demonstration projects leveraging our technologies in conjunction with your development partners…
  - You can enable an integrated vision of technology for the Terminal or Port while enhancing the physical build out and the total project viability and attractiveness to industry and customers
  - Your investment in integration of systems and processes produces higher profits, more customers and increased competitiveness
Key technology Implementation points to stress:

“Experience is the best teacher but the tuition is high:”

- Begin with the end in mind
- Take a step off first but remember that the steps are quick
- Process is soft – but the value is hard – stick to it.
- Capacity building is an enabling pre-requisite
  - There is a difference between investment and inventory
- *Communicate, Communicate, Communicate* (This can’t be overemphasized)
- Information technology is an immature science and needs to be differentiated from engineering. This is a particular concern in established industries and in *engineering cultures*...
- Expect Wobble and address it when you see or sense it.
- Use all the help you can get and RTFM.
- Technology is too important to be left to the technologists
- *Don’t stand on the sidelines and expect glory.*
Q&A
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