



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



History Tour in 60 seconds...

- 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.

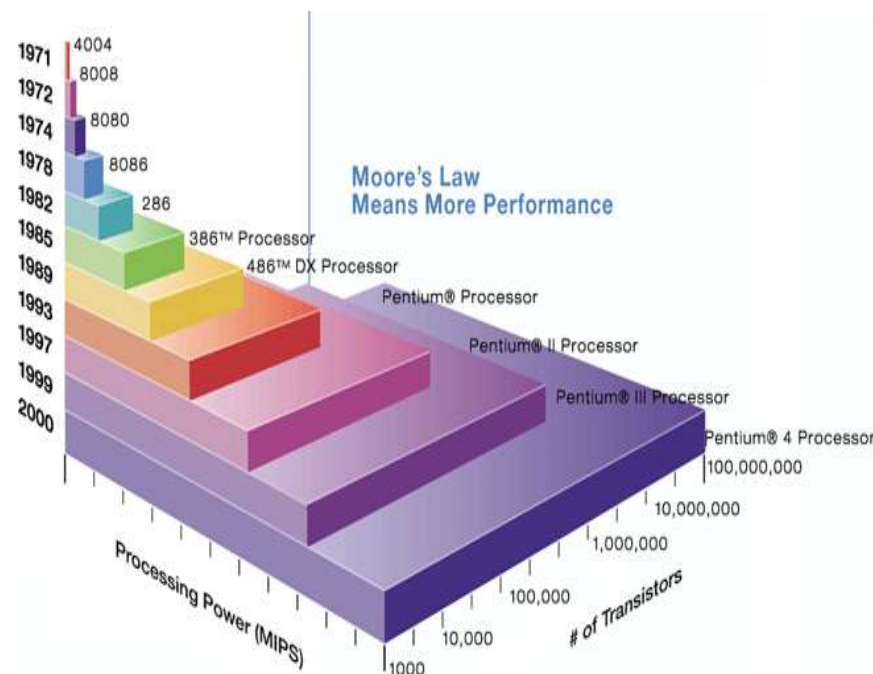
Inside every application is a good idea struggling to get out

Interoperability won't

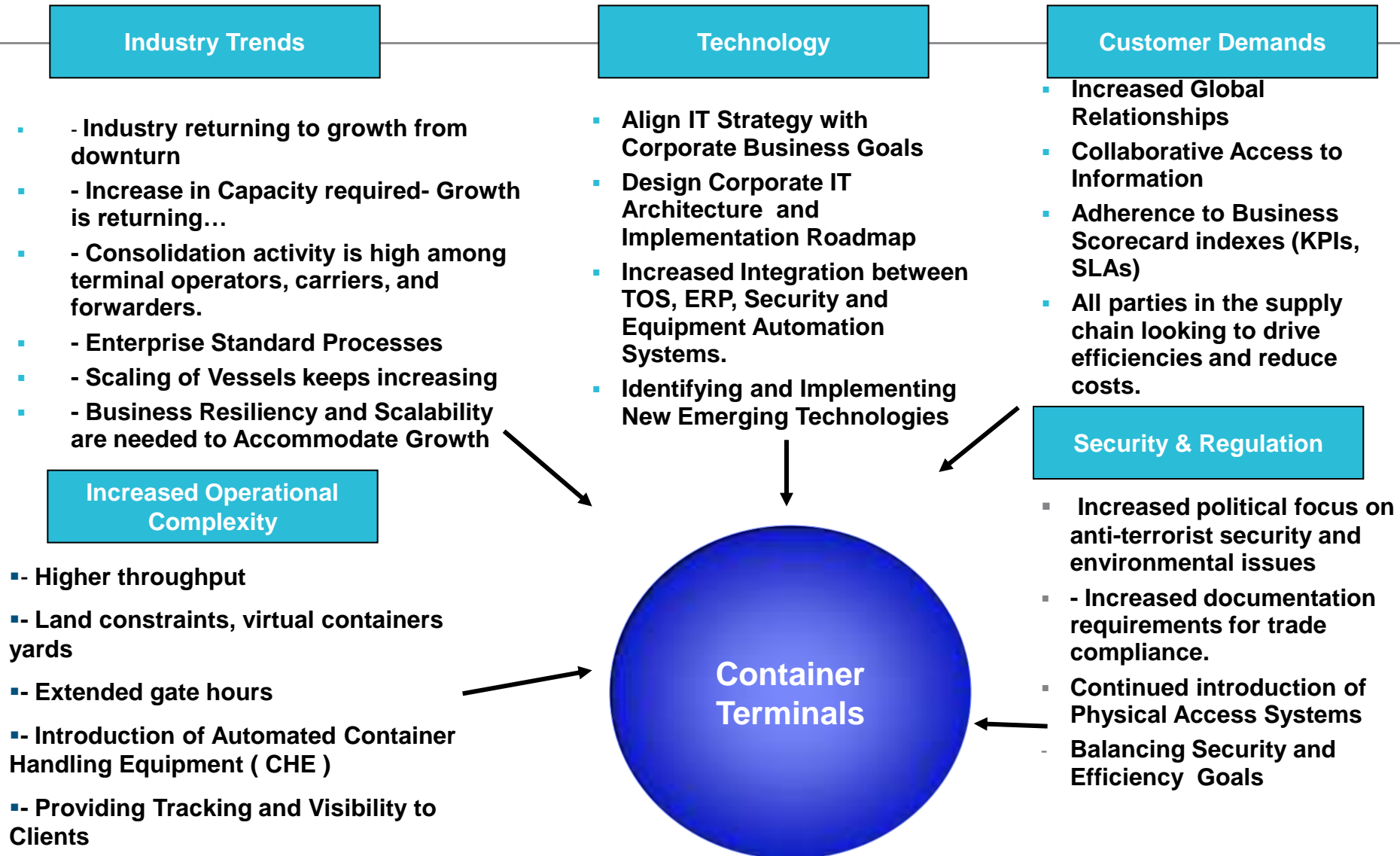
Any program when operating is obsolete

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 :



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....



Ports, Terminals, and Customs Strategic View

Attributes

- Critical
- Important
- Commodity

	Global Policy & Programs	Emergency Preparedness & Response	Port Management	Cargo Management (Air, Sea, Land)	Traveler Clearance & Visitor Tracking	Citizenship & Immigration Services	Intelligence & Enforcement	Revenue & Account Servicing	Enterprise Services
Strategy & Planning	Global Trade Facilitation Strategy	Port Facility Emergency Preparedness Strategy	Marketing Strategy	Strategic Trade Planning	Transportation Security Strategy	Immigration (Visitor) Policy and Program Planning	Enforcement & Risk Management Strategy	Account Servicing Strategy	Enterprise Strategic Plan
	Global Border Protection Strategy		Security Strategy		International Relations and Collaborations		Intelligence & Information Sharing Strategy		Budget & Capital Planning
	Industry Partner Strategy	Emergency Response Planning	Operation Planning	Cargo Operations Strategy	Baggage Strategy	Citizenship Requirements, Process and Quotas	Special Programs Planning	Account Management Strategy	Personnel Policy & Workforce Planning
Management	International Agreements	Port Facility Preparedness Monitoring	Brand Management	Performance Monitoring	Travel Security Performance Monitoring	Visit Management & Visa Compliance	Intelligence Effectiveness Monitoring	Servicing Oversight	Regulations & Rulings
		Tactical Operations Monitoring	Statutory & Regulatory Compliance Monitoring	Clearance Process Liquidation					Grants Mgmt & Control
	Industry Partnership Performance Monitoring	Situational Awareness	Process Security	Trade Compliance Monitoring	Travel Security Testing & Auditing	Citizenship Monitoring and Auditing	Enforcement Operations Performance Tracking	Importer Process Quality Control	Workforce Mgmt & Resource Balancing
Operations	External Market Analysis	Emergency Response Command, Control, Collaboration & Integration	Logical Security	Trade Prog Admin	International Traveler manifest review and pre-clearance	Passport (Travel Document) Application and Renewals	Intelligence Collection, Analytics, & Products	Account Maintenance Services	Human Resource Management & Professional Development
	Service Innovation & Channel Management		Port Logistics & Operations	Pre-Clearance Management					Departmental Accounting & GL
	Joint Ventures	Situational Awareness	Classification & Revenue Assessment (Port Charges, Duties, Taxes)			Visa Application Processing	Targeting & Selection	Integrated Contact Management	Acquisition & Procurement
			Container Security Monitoring	Tracking, Screening & Inspection – Vessel & Cargo	International Traveler Clearance (Arrival/Departure) Land, Air, Sea, Rail		Investigations		Facilities & Asset Management
		Emergency Response Resource Management	Supply Chain Monitoring	Cargo (import) Screening & Inspection		Asylum and Refugee Management		Billing & Payment Processing	Revenue Accounting & Forecasting
	Global Information Integration & Collaboration			Agriculture Inspection	Domestic Travel Security Screening		Enforcement Activities	Account (Receivables) Management & Collections	Grants Application Processing
			Physical Port Security	Laboratory Operations & Scientific Services		Visitor Tracking: Arrival/Departure	Enforcement Case Management		Advanced Research Programs
	Domestic Information Sharing & Collaboration	Critical Infrastructure Response	Port Employee Identification, Access Control & Monitoring	Warehouse Management	Baggage Screening	Citizenship Case Management	Seizures & Controlled Deliveries	License Permit & Registration Processing	Technical Reference & Knowledge Worker Support
				Cargo Release					Privacy Impact Analysis

You are unique in your ability to provide the integrated vision that will make the 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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D.H.Collins

Sr. Solutions Executive
Intelligent Transportation, Customs,
Ports and Border Management

