How technology & smartness solve port operation inefficiencies

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Agenda

• PMO Profile
• BSR special administration-operation model
• Current Problems
• Smart solutions / technologies
• Conclusion
PMO Profile
Ports & Maritime Organization

- Established in 1935
- Sole State Sovereign Body for maritime transportation
- Authorized administration for port and maritime activities
- Regulatory Body for shipping activities
- Iranian representative in IMO, IHO, IALA, etc.
BSR Special Administration-Operation Model
Port of Shahid Rajaee (BSR)

- The largest port in Iran
- Located in unique geographic position at the entrance to the PERSIAN GULF
- Connection to the international railway network, as well as air, and historic Silk Road by which is connected to Central Asian Countries, Northern European Countries and Russia
- Berth: 8.3Km
- Area: 4800 Ha
- Capacity: 6 million TEU
- Management: BSR Port Authority
Ownership Structure & Administration Functions

• State owned port BUT Privatized
  • Owning 3 terminals (Container & General Cargo)
  • Private companies are operating through privatized concessions (about 200 current contracts)
  • The companies manage Terminals & Yard operations through Loading/Unloading, Warehousing, cargo handling such as containers, General Cargo, Bulk, Grain, Vegetable Oil, Petroleum, Ore, etc.

• Port Authority Monitoring
  • Setting regulations
  • Monitoring operators’ performance
  • Managing maritime affairs including harbor –master, Tugging & Mooring, pilotage, etc.
  • Environmental Control, Immigration, HSE
  • Running Safety & Security requirements within the port and the sea
  • Commercial documentary control
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Current Problems
Port Problems

• Operational aspects
  • There are 2 gates in/out in the port
  • Each company has its own trucks (in port vehicles)
  • Moving many IPVs owned by many companies between terminals, yards, depot make congestion
  • The long distance between the yards and the gates for leaving the port
  • Companies do not have tendency toward increasing port efficiency and productivity
  • Companies often focus on their own business
  • Companies do not have influence over each other

• Data flow aspects
  • Each company has its own software
  • Companies do not like to share their information
  • PMO is responsible for Port statistics to predict the port trend and make decisions
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Smart Solutions / Technologies
Technologies to be used

- LTE
  - As communication infrastructure

- RFID
  - In port vehicles
  - Internal gates
  - Container handling equipment

- License Plate & Container No. OCR
  - Port Main Gates
  - Internal Gates

- DGPS
  - Container handling equipment
  - Possibly on the in port vehicles

- VMT / VMC
  - In port vehicles
  - Container handling equipment

- Outside Vehicles
  - Portable Device
  - Bring Your Own Device (BYOD)
    - Smart phones / Tablets
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Why It Is Smart
Why it is smart

- **Error free operation**
  - Checking empty trucks at the main & internal gates
  - Pairing at the main & internal gates
  - Pairing at the handling equipment (IPVs)
  - Auto location - container handling equipment

- **Scheduling operation**
  - Truck Appointment – for port clients
  - Scheduling internal traffic
    - Preserving requested sequence

- **Double Cycling operation**
  - Minimize empty truck journeys
  - Productivity improvement

- **Traffic balancing**
  - Planning level & Operation level

- **Resolves Port Authority Problems**
  - Supervision, Control
    - Checking contract share revenue
  - Real time inventory & statistics
  - Fraud prevention
    - Unexpected travel duration alert
Thanks For Your Attention

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