

Why do ports have to become smart?



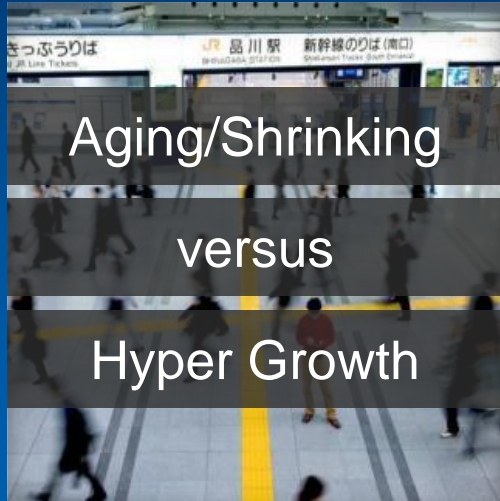
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Major Trends Reshaping Global Landscape

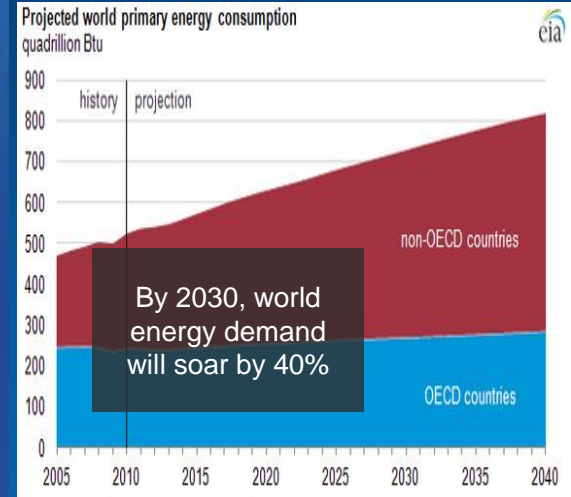
Social Demographics



Economics



Environmental/Energy



Country & City Imperatives Sustainability...

- ✓ Economically
- ✓ Socially
- ✓ Environmentally

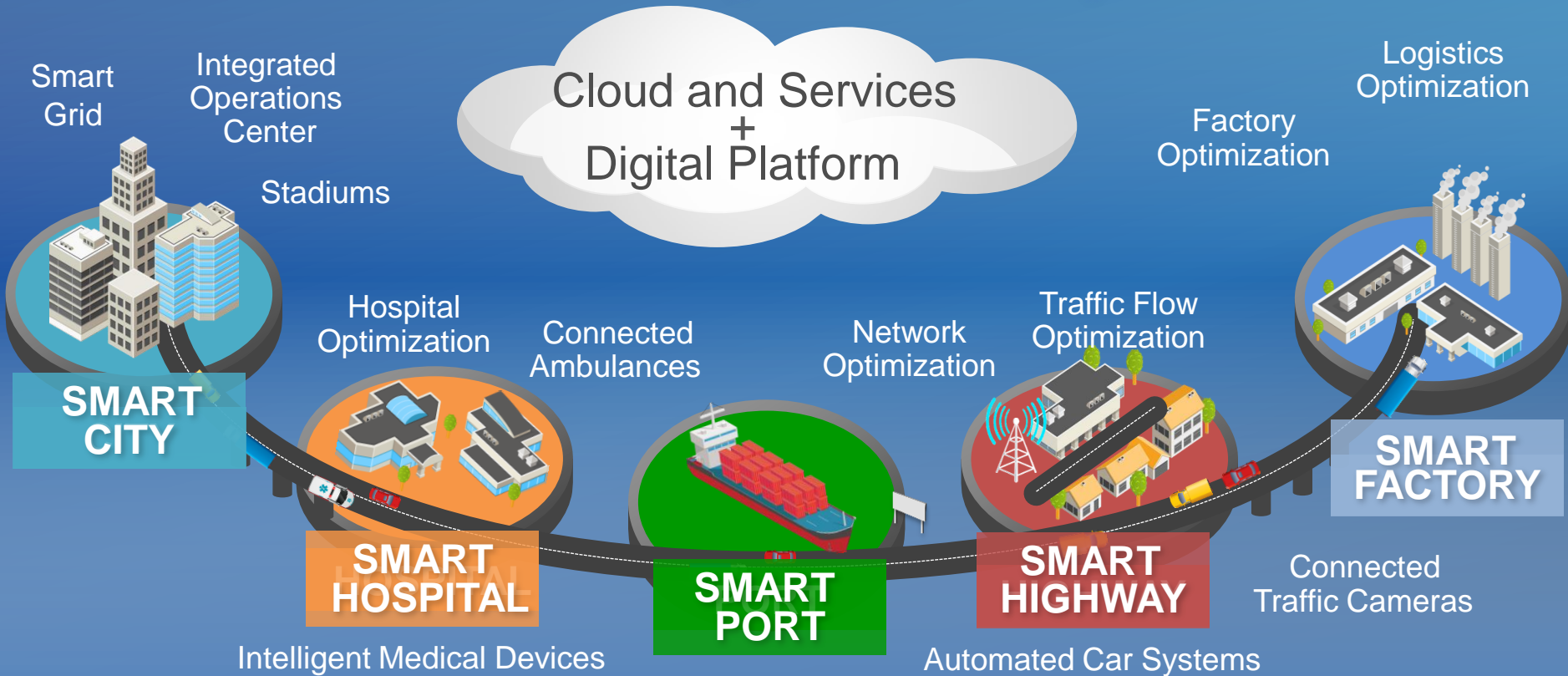


Key Challenges Facing Hamburg Port

- Inability to expand geographically
- Increasing transport demands from Hamburg hub
- Growing need for increased capacity



A Country, City, Company, Home, Person with a Digital Overlay



What is the IoE Opportunity?



Value Sources



Innovation
/Revenue

\$3.0T



Customer
Experience

\$3.7T



Asset
Utilization

\$2.5T



Employee
Productivity

\$2.5T



Supply Chain
/Logistics

\$2.7T

Top Use Cases by Industry

Public Sector \$4.6T

- Next-generation worker
- Smart cities use cases (e.g. traffic management)
- Physical safety and security
- Asset tracking
- Defense: Situational awareness

Retail \$1.5T

- “Fast Retail” checkout optimizer
- Shopper analytics
- Supply-chain visibility
- Knowledge worker mobility

Manufacturing \$3.9T

- Predictive maintenance / asset tracking
- Machine-as-a-service / Factory-in-a-box / Cloud consumption models
- Visual factory
- Remote expert
- Network convergence / plant-wide wireless

Education \$0.9T

- Faculty scale and reach
- Textbook digitization
- Campus mobility
- Faculty / student collaboration
- Community Cloud models

Telecommunications and Information \$1.3T

- IoE enablement (video, mobile, social)
- Next-generation worker
- Tower management / video surveillance
- Fleet management
- Energy management

Energy and Mining \$0.8T

- Connected mobile workforce
- Connected AMI, substation and distribution automation
- Connected assets / Asset monitoring
- Predictive maintenance
- Secure operations

Financial Services \$1.3T

- Omni-channel sales/service transformation
- Remote advisor
- Next-generation worker
- IT security
- Cloud delivery models

Healthcare \$1.1T

- Extended care delivery models
- Remote patient monitoring
- In-patient monitoring
- Staff mobility and security
- Patient media experience

Ports
?

Hamburg Port Authority is building the World's 1st IoE Seatropolis!

- Traffic management solution helps the port road manager monitor road traffic
- Structural sensors provide real time data on the condition of moveable infrastructure
- Environmental sensors deliver data to improve analysis of the environmental situation
- Smart lighting enhances the safety of pedestrians and cyclists in the port



Benefits of Sustainable Communities

Jobs/FDI



Energy Saving



30%

Water
Consumption



50%

Crime Rates



20%

Traffic



30%



Education:
\$3/Student/Month



Healthcare:
\$3/Doctor Visit

A Safer, Desirable Environment where People are Happier and more Productive
with Benefit to the Economy, Society and Environment

Key Takeaways

World is increasingly diverse, data driven and digitized

Security should be top of mind

Data → Info → Knowledge → Wisdom

New smart regulations and ecosystems needed

Go for exponential opportunities!



TOMORROW starts here.

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