



ESG⁺

HSRP – Economic impact of Digital Twin

ESGplus LLC

Integrity, Transparency, Sustainability, Resilience

Capt. Anuj Chopra FNI, Extra Master, ACUE

Adjunct Professor, SCLT Program, **University of Houston**

Cofounder & CEO – ESGPlus LLC

AREAS OF IMPACT

1. Port Operations **Optimization**
2. **Machine learning** (AI) & Simulation
3. **Realtime Transparency** of Supply Chain
4. **Informed** data-driven decision making
5. Increased all-around **Safety & Resilience**
6. **Sustainability & GHG Emissions**
7. Commercial Impact **\$\$\$**

Port Optimization

- ❖ Economic Impact
- ❖ GDP impact
- ❖ Employment
- ❖ Knowledge & Expertise
- ❖ Maritime cluster & ancillary development
- ❖ Strategic Security

SCHEDULE OPTIMIZATION

(Project Sequencing)

Constraint: Timing and Dependencies

WORK TYPE OPTIMIZATION

(Portfolio Balancing)

Constraint: Categorical Designations

RESOURCE OPTIMIZATION

(Resource Capacity Analysis)

Constraint: Human resource availability

COST-VALUE OPTIMIZATION

(Efficient Frontier Analysis)

Constraint: Budget

- ❖ **Realtime** data
- ❖ Opportunity to “maximize **sustainability**”
- ❖ Optimized **Commercial** Resilience
- ❖ **Knowledge** sharing & education
- ❖ Transparency, data analytics & **research**





Questions ???

ESG+

Thank you !

info@ESGplusLLC.com

+1 281 891 3339

ESGPlus.us

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