

How Disruptive Technologies Can Achieve Sustainable Port Development and Operations **End to End Vision – Port Solutions**

5 March 2021

The Challenge

The global port and logistic industry is constantly challenged with ever changing conditions – climate change, business, financial, health, etc.

Client increased need for custom-made innovative services, solutions and products that break away from legacy systems and practices.

Fragmented standalone market offerings with unclear definition and gaps (*Smart Ports...Green Ports...Ai/Autonomous/Big Data...Sustainable/Resilient Operations... - What is behind all this?*)

Market needs for tangible business and technical solutions which are **Sustainable, Resilient and Adaptable to any stage** of the facility life cycle.

Harness the fast evolution of technology of this industrial revolution - **Robotics + Data Analytics + Ai** - and arrange in a logical manner for day-to-day challenges.



Success will come when you have all the jigsaw pieces that you need..... delivering a holistic joined up solution by connecting the Dots.

Our Answer... a true End to End (E2E) Disruption

Vision that brings together a strategic group of seasoned entrepreneurial people, partners and solutions, that provides **holistic, turn-key, port-centric** options for any brown and greenfield port.

An Industry First –

- Give **everyone** the option to outsource functions and tasks that are normally procured individually and internally in organizations, all in a one-stop-shop format.
- Make intelligent port operations and solutions accessible to **everyone**.
- True single service provider for all your logistics infrastructure – Ports, Rail, Inland Depots, Roads, Logistic Parks, and more — underpinned by our global cross industry in-house experience and expertise.

We're Connecting the Dots

Bringing AI-focused autonomous and sustainable port and engineering solutions for your equipment and operations.

We help our clients align and optimize their business goals.



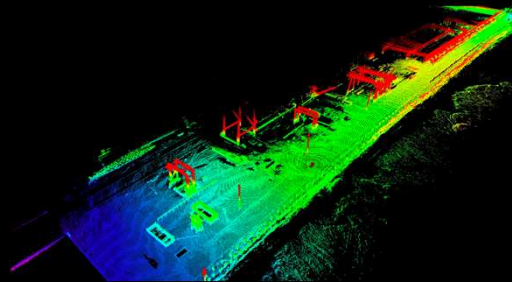
"A port becomes more SUSTAINABLE by Optimizing its Processes and embracing Technologies"

Jacobs

Challenging today.
Reinventing tomorrow.

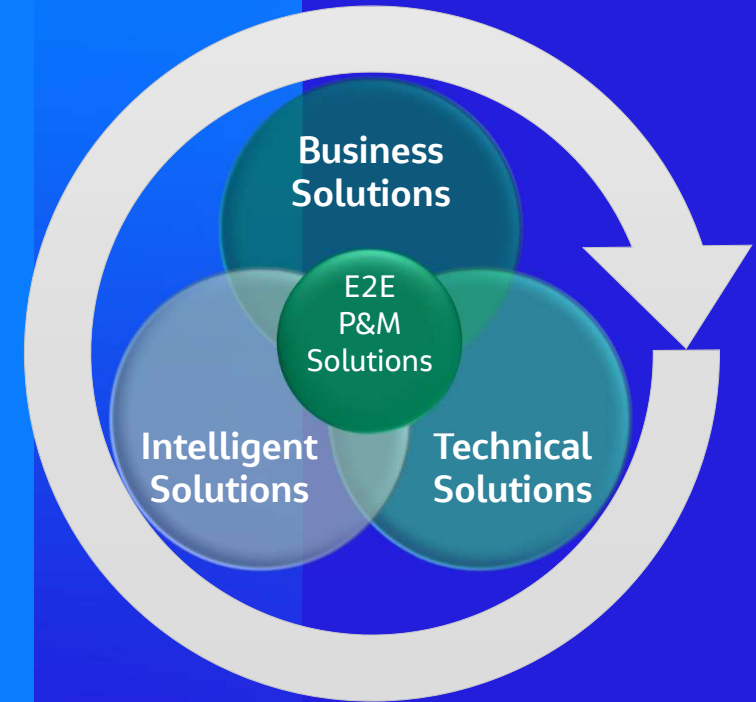
E2E Solutions Suite – Strategic Simplicity

- Grouped in the following key solutions:
 - **Business Solutions**
 - **Intelligent Port Solutions**
 - **Technical Solutions**
- Solutions driven by clients needs, supports **outsourcing** of non-traditional services.
- Brings non-traditional capabilities and scope with external global partners.
- Repurposes traditional engineering services into Next Generation ready **flexible solutions**.
- **Integrates technology**, delivery and operation disciplines into a single source.
- **E2E is Scalable**, can be individual services up to a full programme cycle.
- Master plan to procurement and commissioning.



“End to End (E2E) provides a suite of services and solutions adapted to the needs of each client and facility”

Facility Maturity Cycle





Disrupt with Technologies to achieve Sustainable Development and Operations?

VISION

A Sustainable Smart Port is a facility which continually and holistically reviews, optimizes and enhances its current and future port business processes and operations to reduce its **Footprint** effect on multi-dimensional themes – operations, cost, environment, social, asset maintenance, etc. and maximizes its resilience to climate change.

“A standalone Solution **Will Not yield a Sustainable Port Development and Operation”**

BECAUSE....*We believe that,*

- **To Disrupt**, we use technology interrelationship application – e.g. utilize data from operations into engineering design and asset management with predictability engines.
- **A Sustainable Port** must consider holistically its interrelationship and impact on - environment/social aspects, market business/trade, financial/costs, operations/equipment, infrastructure – and all of these are directly influenced by day-to-day technologies.

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E2E Offering Objectives – A Transformational Journey

- Understand your baseline with our **Port Solutions** and address current and future assets and process issues.
- Analog to **intelligent facility** infrastructure and operations with phased implementation.
- Maximize utilisation under current state facility boundaries with a view on **future resiliency and sustainability**.
- Obtain efficiencies by **increasing reliability, predictability** of operations and asset maintenance, which in turn lower expenditure.
- Maturity based **scalable** options for infrastructure, operations, equipment, systems.
- **Optimization** and balancing of CAPEX and OPEX for improved revenues and returns.
- Support review/enhancement of Corporate Sustainability Management/Procurement strategies



“Achieve Autonomous Operations without changing your mode of operation, infrastructure or even equipment type”

Setting the Scene...

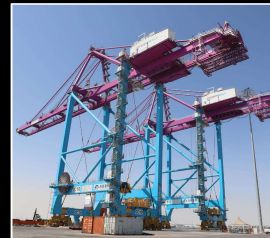
*Efficiency
Optimization
Intelligent
Artificial Intelligence
Autonomous
Automation
Green
Sustainability
Flexibility
Resiliency*



*E2E is our approach to
provide a suite of services
and solutions adapted to the
needs of each client and
project*



- Suite of solutions by partnering:
- Engineering and Consultancy
 - Equipment Specialists
 - Green Energy
 - Repurposing infrastructure
 - Asset Management
 - Smart Procurement
 - Artificial Intelligence
 - Ai driven Operating system
 - Ai autonomous mobility
 - Innovation



*Transformation
begins...*



..... Joining the Dots

Jacobs Port Solutions – End to End Services



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Reinventing tomorrow.

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