Aligning GIS with Port Strategy at the Port of Long Beach
Aligning GIS with Port Strategy at the Port of Long Beach

Integrations

Port of Long Beach
Strategic Alignment
Past 5 Years
Next 5 Years
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Past 5 Years
Port of Long Beach
Strategic Alignment
Past 5 Years
Next 5 Years

Bathymetry
North American ports
Ports with known GIS activities
The Port of Long Beach
*The leading port in GIS utilization*
The Port of Long Beach

www.polb.com

- How long has POLB been using GIS?
  - Desktop GIS since 2000.
- How many employees does it have?
  - 580 staff
- How many desktop power users does it have?
  - 8 power users mostly engineering, survey, and planning
- How many web GIS power users does it have?
  - 25 – 50 / month
- How many casual users does it have?
  - 200 – 300 / month averaging 600 sessions in 2019
- How many outsiders use POLB systems?
  - Virtual Port – xxx
- How many servers are used for geospatial technologies?
  - 10
Main Participants

• Currently
  • Information Management Division
  • Engineering Design Division
  • Security Services Division
  • Transportation Planning Division
  • Real Estate Division
  • Tenant Services and Operations Division

• Up and coming
  • Survey Division
  • Maintenance Division
  • Program Management Division
  • External Partners
Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)
Data

- **Underground infrastructure**
  - Electric, communications, sewer, water, storm water, fiber
- Survey control
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)
Data

- Underground infrastructure
- **Survey control**
  - GPS monuments and benchmarks
- Dig alert representation
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)
Data

- Underground infrastructure
- Survey control
- **Dig alert representation**
  - Specialized symbolization for Underground Service Alert
- Permit locations
- Leases
- Inspection compliance (e.g. catch basins)
Data

- Underground infrastructure
- Survey control
- Dig alert representation
- **Permit locations**
  - Internal permits for laydown yards, buildings, water
- Leases
- Inspection compliance (e.g. catch basins)
Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- Leases
  - Tenant leases, oil set-asides and operation areas, deed restrictions, property ownership, rights of way
- Inspection compliance (e.g. catch basins)
Data

- Underground infrastructure
- Survey control
- Dig alert representation
- Permit locations
- Leases
- **Inspection compliance (e.g. catch basins)**
  - In-field data collection with photos
Automation

- Berth assignment
- Internal permitting
- Work order reports

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Automation

- Berth assignment
  - Allocation and rental of non-tenant berths
- Internal permitting
- Work order reports
Automation

- Berth assignment
- **Internal permitting**
  - Inter-departmental coordination of space usage (maintenance, construction, environmental cleanup, etc.)
- Work order reports
Automation

- Berth assignment
- Internal permitting
- **Work order reports**
  - Adding mapping to an old non-spatial work order system
Access

- Port Atlas™
- Individualized experience
- External access
Access

- **Port Atlas™**
  - Enterprise-wide
  - Centralized configuration
  - Device agnostic
- Individualized experience
- External access
Access

- Port Atlas™
- Individualized experience
  - General
  - Engineering
  - Real Estate
  - Planning & Environmental
  - Tenant Services
- External access
Access

- Port Atlas™
- Individualized experience
- External access
  - Active Directory for staff
  - Google Identity for external partners

Sign In

- Google Identity
- Windows Integrated

Return to Application
Enterprise Plans

- Increased availability
- Increased resiliency
- Support new systems
- Document management integration
Enterprise Plans

- **Increased availability**
  - Additional parallel technology stacks
  - Always-on capability

- Increased resiliency
- Support new systems
- Document management integration
Enterprise Plans

- Increased availability
- **Increased resiliency**
  - Multiple data centers
- Support new systems
- Document management integration
Enterprise Plans

- Increased availability
- Increased resiliency
- **Support new systems**
  - Computer Aided Dispatch
  - Computerized Maintenance Management System (CMMS)
  - Enterprise Asset Management (EAM)
- Document management integration
Enterprise Plans

- Increased availability
- Increased resiliency
- Support new systems
- **Document management integration**
  - Leverage Enesgy® Document for tighter integration with Electronic Document and Record Management System (EDRMS)
Automation Plans

- Information sharing
- Collaboration
- Coordination
- Information capture
- Customer service
Automation Plans

- Information sharing
  - Single source of truth for large infrastructure projects, e.g. Pier B On-Dock Rail Facility
- Collaboration
- Coordination
- Information capture
- Customer service
Automation Plans

• Information sharing

• **Collaboration**
  • Multi-agency editing of shared information, e.g. overweight cargo routes

• Coordination

• Information capture

• Customer service
Automation Plans

- Information sharing
- Collaboration
- Coordination
  - Clearinghouse for external streaming data sources, links to external sites
- Information capture
- Customer service
Automation Plans

- Information sharing
- Collaboration
- Coordination
- **Information capture**
  - Incident reporting, condition assessment inspections, windshield surveys
- Customer service
Automation Plans

- Information sharing
- Collaboration
- Coordination
- Information capture
- **Customer service**
  - Tenant work order portal
Leadership

- Virtual Port
- RAMS
- Overweight cargo routes
Leadership

- Virtual Port
  - Hosting and sharing advanced situational awareness system with other ports, local, state and federal agencies
- RAMS
- Overweight cargo routes
Leadership

- Virtual Port
- **RAMS**
  - Hosting the map, data and documents for ACTA, a joint rail agency between Ports of Long Beach and Los Angeles
- Overweight cargo routes
Leadership

- Virtual Port
- RAMS
- **Overweight cargo routes**
  - Centralizing and sharing roads where overweight cargo is permissible between 2 ports, 3 cities and 1 state agency
Integrations

- Vessel tracking
- Satellite imagery
- Property and right of way management
Integrations

- **Vessel tracking**
  - AIS, Marine Exchange of SoCal, Coast Guard, other ports
- Satellite imagery
- Property and right of way management
Integrations

- Vessel tracking
- **Satellite imagery**
  - Planet.com, Los Angeles County-led aerial photo consortium (LAR-IAC)
- Property and right of way management
Integrations

- Vessel tracking
- Satellite imagery
- **Property and right of way management**
  - Alameda Corridor Transportation Authority, Port of Los Angeles
Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- BIM
- IoT
Integrations Plans

- **Live data connections**
  - Port of Los Angeles, neighboring cities and counties, NOAA, telecom, vehicle navigation, vehicle tracking
  - Unmanned Aircraft Systems (UAS)
  - Bathymetry
  - CAD
  - BIM
  - IoT
Integrations Plans

- Live data connections
- **Unmanned Aircraft Systems (UAS)**
  - Buildings, structures, weather, cargo, flight plans, tenant and labor communication
- Bathymetry
- CAD
- BIM
- IoT
Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- **Bathymetry**
  - Bathymetric Information System (BIS), USACE, NOAA and port surveys,
- CAD
- BIM
- IoT
Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- **CAD**
  - Synergizing CAD with GIS
- BIM
- IoT
Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- **BIM**
  - 3D GIS and BIM integration
- IoT
Integrations Plans

- Live data connections
- Unmanned Aircraft Systems (UAS)
- Bathymetry
- CAD
- BIM
- IoT
  - Environmental quality monitoring, structural integrity sensor network
Access Plans

- ArcGIS Enterprise
- ArcGIS Online
- Field integration
Access Plans

- **ArcGIS Enterprise**
  - Portal for ArcGIS
  - ArcGIS Pro
- **ArcGIS Online**
- **Field integration**
Access Plans

- ArcGIS Enterprise
- **ArcGIS Online**
  - Information sharing with public
  - Marketing and public relations
- Field integration
Access Plans

- ArcGIS Enterprise
- ArcGIS Online
- **Field integration**
  - Blanket WiFi coverage
  - Increased use of secure, ruggedized mobile devices
Alignment with Port Strategy

• Strategic Plan
• Security
• Efficient cargo movement
• Customer service
• Infrastructure
• Productivity
• Environmental impact
• Community access
• Workforce

Strategic Goals & Objectives

The Port has established six strategic goals to achieve in coming years. These goals define our priorities in our mission and focus our resources in a way that moves us closer to our vision for the future. To realize this vision, it is necessary to successfully achieve each of the following goals:

• Strengthen the Port’s competitive position through secure and efficient movement of cargo, while providing outstanding customer service.
• Maintain financial strength and security of assets.
• Develop and maintain state-of-the-art infrastructure that enhances productivity and efficiency in goods movement.
• Improve the environment through sustainable practices and the reduction of environmental impacts from Port operations and development.
• Broaden community access to Port-related opportunities and economic benefits.
• Attract, develop and retain a diverse, high-performing workforce.
Alignment with Port Strategy

- Strategic Plan
- Security
  - Situational and Domain Awareness, damage assessment, tracking
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
  - Transportation planning, disaster response, event planning
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
  - Berth allocation, trucker support, more accurate work orders
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- **Infrastructure**
  - Construction coordination, asset maintenance
- Productivity
- Environmental impact
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
  - Single authoritative source for mapped data, linking documents to maps
- Environmental impact
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
  - Monitoring
- Community access
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
  - Public access to data, secured coordination with contractors
- Workforce
Alignment with Port Strategy

- Strategic Plan
- Security
- Efficient cargo movement
- Customer service
- Infrastructure
- Productivity
- Environmental impact
- Community access
- Workforce
  - Field access to information
Enterprise

- Enterprise funded
- Technology stack
- Change control
Enterprise

- Enterprise funded
  - Migration from departmental to enterprise GIS
  - Funded through Information Management budget and Security

- Technology stack
- Change control
Enterprise

- Enterprise funded
- **Technology stack**
  - Multi-tier
  - Multi-stack
  - Virtualized
- Change control

Past 5 Years

Port of Long Beach

Strategic Alignment

Past 5 Years

Next 5 Years

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Enterprise

- Enterprise funded
- Technology stack

**Change control**
- Change management
- Change Advisory Board
- Software Development Lifecycle
Aligning GIS with Port Strategy at the Port of Long Beach

AAPA Smart Ports Seminar
San Pedro, CA
February 5 – 6, 2020

Shaun Healy, GIS Coordinator, Port of Long Beach
Daniel Elroi, President & CEO, NSGIS

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