Keeping Passengers Safe
Biometrics for Transportation

BiometriTech
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New York City

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Headquartered in Boulder, Colorado

Leading Edge Technology Expertise
- 3D Visualization, Image Processing, Electronic Billing & Payment, Wireless Messaging, E-Commerce, Interactive Services

Emerging Market Analysis
- Segmentation Models
- Opportunity Sizing
- Technology Evolution
- Competitive Environment
- Target Profiling
- Niche Penetration Strategy
- Solution Effectiveness
- Positioning

Products & Services: Newsletter, Reports, Consulting
Biometrics For Transportation
Hype versus Reality

- Infrastructure Vulnerabilities
- Biometrics Solutions
- Case Studies
- Biometrics For Transportation: Today
- Biometrics For Transportation: The Near Future
- Conclusions
Infrastructure Vulnerabilities
Air, Truck, Rail, Maritime

“Front End”
- Public Facility
- Passengers
- Baggage
- Employees
  - Crew, Airport

“Back End”
- Restricted Access
- Cargo
  - Shippers, Carriers
- Outside Suppliers
  - Food, Fuel, Maintenance, etc.

Most Attention

Biggest Threat
# Biometrics Solutions: Travel & Transportation

<table>
<thead>
<tr>
<th>Urgency of Solution</th>
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<tbody>
<tr>
<td>Very High</td>
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<tr>
<td>High</td>
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<tr>
<td>Medium</td>
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<tr>
<td>Low</td>
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## Physical Access
- Employee, crew, suppliers

## Logical Access
- **Secure Data**
  - Personal, corporate, public
- **Financial Transactions**
  - Purchase tickets

## Identity Confirmation
- Passport, trusted traveler

## Time & Attendance

## Surveillance
- Public, private

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<tr>
<th>Air</th>
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<th>Maritime</th>
<th>Truck</th>
<th>Bus</th>
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# Biometrics Solutions: Travel

**Facilities** – Airport, Seaport, Train Stations, Bus Terminals, Auto Rentals, Border Crossings

**Vehicles** – Airplanes, Ships, Railroads, Buses, Rental Cars

## Urgency of Solution

- **Very High**
- **High**
- **Medium**
- **Low**

## Physical Access

- **employee, crew, suppliers**

## Logical Access

- **Secure Data**
  - personal, corporate, public
- **Financial Transactions**
  - reservations, ticketing

## Identity Confirmation

- **passport, trusted traveler**

## Time & Attendance

## Surveillance

- **public, private**

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<thead>
<tr>
<th></th>
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<th>Facility Private Access</th>
<th>Passengers</th>
<th>Facility Employees</th>
<th>Crew</th>
<th>Outside Suppliers</th>
<th>Baggage</th>
<th>Cargo &amp; Mail</th>
<th>Transport Employees</th>
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# Biometrics Solutions: Cargo

Facilities – Airport, Seaport, Docks, Rail Yards, Warehouses, Border Crossings

Vehicles – Airplanes, Ships, Railcars, Trucks

| Physical Access | Facility Management Company | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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| Logical Access | Secure Data | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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| Financial Transactions | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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| Identity Confirmation | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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| Time & Attendance | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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| Surveillance | Facility Perimeter | Facility Public Access | Facility Private Access | Transportation - Companies | Transportation - Commerce | Vehicles | Cargo - Containers, Trailers, etc.
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### Urgency of Solution

- **Very High**
- **High**
- **Medium**
- **Low**

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## Case Studies

<table>
<thead>
<tr>
<th>Organization/Location</th>
<th>Application</th>
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<tr>
<td>Ben Gurion Airport</td>
<td>Identity Confirmation - Immigration Trusted Traveler</td>
<td>Hand</td>
<td>Deployed F</td>
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<tr>
<td>Schiphol Airport</td>
<td>Identity Confirmation - Immigration Trusted Traveler</td>
<td>Iris</td>
<td>Deployed F</td>
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<td>St. Petersburg - Clearwater Airport</td>
<td>Cooperative Surveillance</td>
<td>Face</td>
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<td>O'Hare Airport &amp; ATA</td>
<td>Logical Access - Electronic Supply Chain Manifest</td>
<td>Finger</td>
<td>Testing B</td>
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<td>Union Pacific Railroad</td>
<td>Logical Access - Rail Car release</td>
<td>Voice</td>
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<td>Canadian National Railways</td>
<td>Physical Access - Outside Suppliers</td>
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<td>Schiphol Airport</td>
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<td>Finger &amp; Face</td>
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<td>Concept F</td>
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Biometrics & Transportation: Today

- Focus on “Front End” in Airports
- Tests & Pilots for Large Scale “Back End”
- Small Closed Loop Applications
  - Well constrained
  - Less than 50,000 users
- Government Projects Slow Going
- No Action on Travel Services
Biometrics & Transportation: The Near Future

- Highly Integrated Systems
- Ubiquitous Use of Biometrics
- Legislative & Regulatory Control to Protect Privacy

Projects: TSA, Silicon Valley Blue Ribbon Panel, IATA

Focus on End-to-End Transportation
- Across all Modes of Transport - Air, Land, Maritime
- Expedite Passengers & High Security
- Origin to Destination Monitoring of Cargo
Conclusions

- Re-architecting of Public Transportation Spaces for High Security is a BIG PROBLEM
- Industry Not Waiting For – And in Some Cases Pushing - Government
- Incremental Steps To Solve Specific Problems Then Large-Scale Integrated Systems
- Operational Efficiency & Process Improvement Drive Adoption
- 3 – 5 Year Before Biometrics Are Ubiquitous
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