

Smart Tourism Solution 2025

Developed by Radical Enlighten Co., Ltd.

Platform Name: DeepTrack

Website: www.radical-enlighten.com

Background

Radical Enlighten Co., Ltd. developed the **Smart Tourism Solution** to support government agencies, local authorities, and tourism businesses in transforming traditional destinations into *data-driven smart tourism ecosystems*.

Modern travelers—both domestic and international—expect experiences that are convenient, valuable, and personalized. However, most destinations lack **accurate, real-time data** about visitor flows, crowd density, and behavioral patterns.

The Smart Tourism Solution bridges that gap by using **Bluetooth/Wi-Fi detection technology** and **advanced analytics** to visualize and predict tourist movements — allowing better planning, management, and promotion across cities or provinces.

Purpose & Value Proposition

The platform empowers tourism authorities and private operators to:

- Monitor **real-time visitor density** and crowd movements.
 - Plan and promote events based on **actual visitor behavior** and traffic patterns.
 - Reduce congestion at popular spots and **distribute visitors** to alternative destinations.
 - Support **local economic growth** by identifying high-traffic routes and optimizing retail placement.
 - Enable **data-driven decision-making** for sustainable tourism development.
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Core System Features

1. Node Profile Management

- Manage sensor nodes (active/inactive, indoor/outdoor, effective range).
- Set parameters like RSSI thresholds and detection radius.
- Visual map interface for sensor placement.

- Auto-calculation of *Tourism Carrying Capacity (TCC)* for each location.

2. Daily Heat Map Report

- Hour-by-hour heatmap of visitor density (00:00 – 24:00).
- Comfort / Busy / Alert color coding for easy interpretation.
- Playback and timeline navigation.
- Based on *distinct device count* for accuracy.

3. Weekly Detection Report

- Weekly statistical summaries with bar and pie charts.
- Comparison between top 10 most visited locations.
- Interactive map visualization with node-level detection data.

4. Device Flow Report

- **Sankey Diagram** illustrating movement between nodes every 3 hours.
- Identifies major flow routes for route planning and event design.

5. Center Flow Passthrough Analyzer

- Reveals travel network structure (Star / Circular Topology).
- Analyzes main hubs and supporting nodes, including visitor transitions.

6. Tourist Visited Hour Analysis

- Unique visitor counts by hour and location.
- Sankey diagram of hourly movement (in-out).
- Detects daily or seasonal travel trends.

7. DeepFlow Analytics

- Multi-layer analysis of visitor behavior “before – during – after visit.”
- Reveals correlation between destinations and travel motivations.
- Incorporates *Carrying Capacity* and *Long-term Behavior Metrics*.

8. Tourism IOC (Intelligence Operations Center) Dashboard

- Centralized command-and-control dashboard for executives.
 - Real-time summary of sensors, detections, and occupancy rates.
 - Interactive map, density level indicators, and movement charts.
 - Designed for strategic planning and quick operational response.
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Benefits for Stakeholders

For Government & Tourism Authorities

- Real-time visibility of crowd levels across multiple destinations.
- Data-driven policy and resource management.
- Enhanced visitor safety, comfort, and satisfaction.
- Tools for promoting *balanced tourism* and sustainable growth.

For Private Businesses

- Insights for marketing and event planning based on actual tourist flow.
- Optimal placement for stores, restaurants, and attractions.
- Targeted promotions during high-traffic time windows.

For Tourists

- Improved travel experiences through better crowd management, smooth traffic, and personalized tourism routes.

Sustainability & Scalability

The platform is scalable to any size of tourism network—from small cities to national-level deployments.

It supports **multi-node sensor expansion**, **long-term analytics**, and **custom dashboard configurations** for various user types.

By turning raw movement data into actionable insights, DeepTrack drives **smart, sustainable tourism management** aligned with global standards.