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TimeTec Smart Parking:

The Complete Vertical Playbook

11 Industries • One Ecosystem • Infinite Possibilities

How Hotels, Malls, Hospitals, Airports, Offices, Residences, Universities, Convention Centres, Government Buildings, Industrial Hubs & Tourist Attractions run parking as a profit, security & experience engine

Vertical Playbook Guide

Who this eBook is for

Property owners, asset managers, facility operators, CIO/CTOs, security heads, and municipal/government leaders evaluating a modern, integrated parking + smart building ecosystem.

How to use this eBook

- **Strategy:** Read the Executive Summary & Ecosystem chapters.
- **Execution:** Jump to your vertical's chapter for requirements, checklists, and monetization levers.
- **Procurement:** Use the RFP checklist & ROI formula in the appendix.

Table of Contents

Executive Summary

Parking is no longer a silo. With TimeTec Parking and API integrated into TimeTec Next Activities and third-party systems, operators get touchless access, revenue control, high-grade security, and real-time analytics.
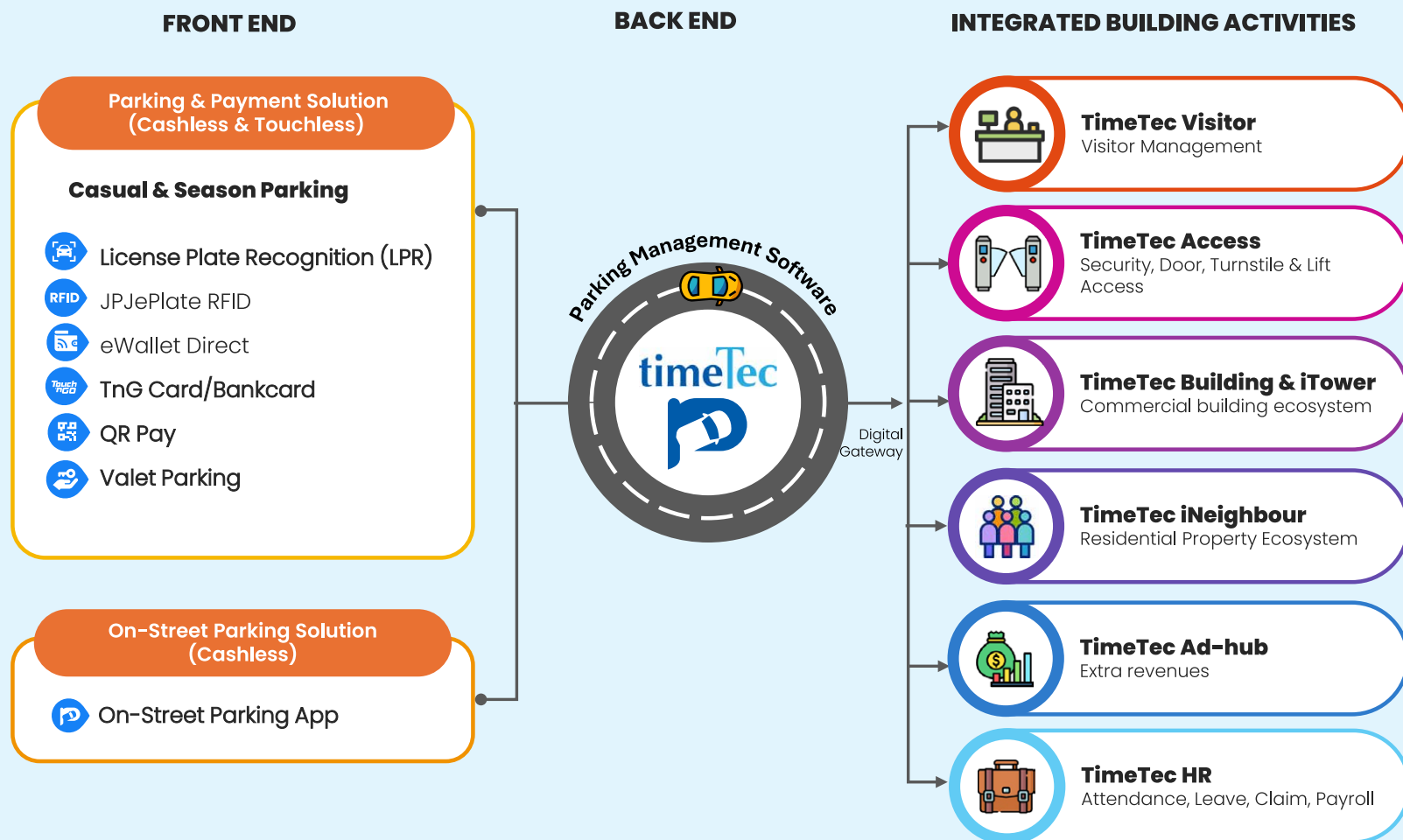
Core backbone: LPR, eWallet Direct, VPGS (Video Parking Guidance), multi-entity revenue separation, season pass, valet module, premium parking, event parking, next activities system & apps (TimeTec Visitor, TimeTec Access, TimeTec Building & iTower App, TimeTec iNeighbour, TimeTec Ad-Hub, TimeTec HR -linked access), or third party system, where needed.

Outcomes: shorter queues, higher satisfaction, lower variance, richer data, safer sites, and new revenue channels (ads, premium bays, partnerships).
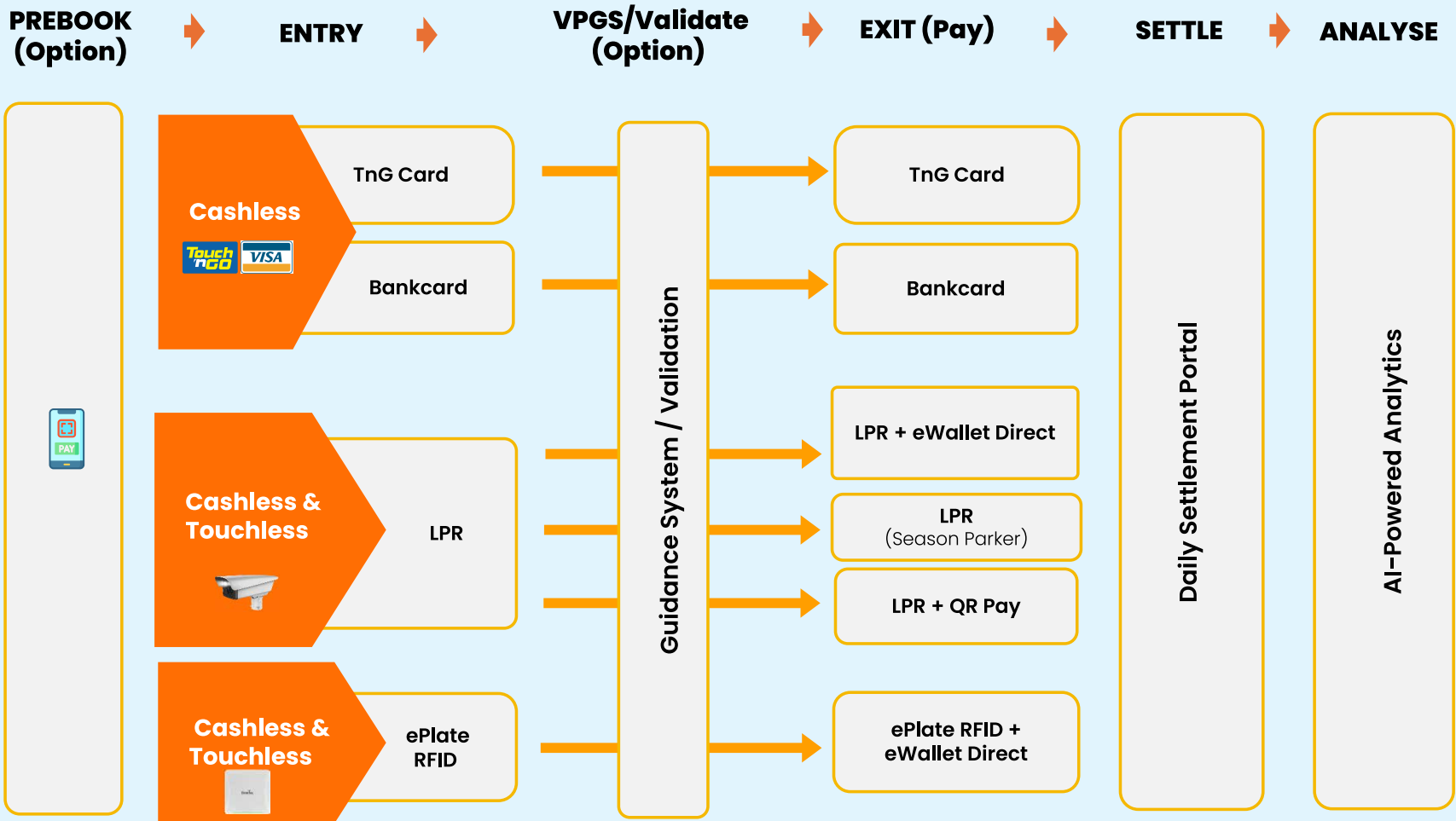
TimeTec Smart Parking Ecosystem

Parking & Next Activities

FRONT END

BACK END

INTEGRATED BUILDING ACTIVITIES

Parking & Payment Solution (Cashless & Touchless)

Casual & Season Parking

- License Plate Recognition (LPR)
- JPJePlate RFID
- eWallet Direct
- TnG Card/Bankcard
- QR Pay
- Valet Parking

On-Street Parking Solution (Cashless)

- On-Street Parking App

Parking Management Software

timeTec

Digital Gateway

TimeTec Visitor
Visitor Management

TimeTec Access
Security, Door, Turnstile & Lift Access

TimeTec Building & iTower
Commercial building ecosystem

TimeTec iNeighbour
Residential Property Ecosystem

TimeTec Ad-hub
Extra revenues

TimeTec HR
Attendance, Leave, Claim, Payroll

Security: LPR + CCTV + access control • Role-based audit trails • Blacklist controls • Optional HR-linked vehicle access.

| 3

Casual Parking & Payment Workflow

PREBOOK (Option)	ENTRY	VPGS/Validate (Option)	EXIT (Pay)	SETTLE	ANALYSE

Cashless

- TnG Card → → TnG Card
- Bankcard → → Bankcard

Cashless & Touchless

- LPR → → LPR + eWallet Direct
- LPR → → LPR (Season Parker)
- → → LPR + QR Pay

Cashless & Touchless

- ePlate RFID → → ePlate RFID + eWallet Direct

Guidance System / Validation

Daily Settlement Portal

AI-Powered Analytics

Parking Equipment Overview

Verification Method (LPR/UHF)

L Series   LPR-H2   LPR-H3   UHF

Payment Collection

Validator   TPK-2   TPK-3   APM-1   APM-2

VPGS

Indoor Parking Guidance

Guidance Camera

Entrance Info-stand

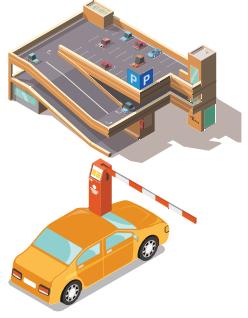Car Finder Kiosk

Parking Barrier
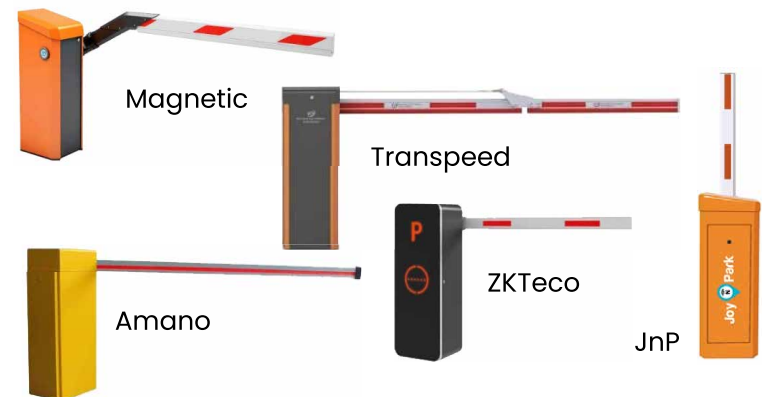
Magnetic

Transpeed

Amano

ZKTeco

JnP

Security Measure: LPR + CCTV + access control · Role-based audit trails · Blacklist controls · Optional HR-linked vehicle access.

Implementation Blueprint (Any Vertical)

TimeTec Parking Roll Out Schedule

Week 1 & 8	Week 1 & 2	Week 3 - 7	Week 8 --
Before HW Delivery	**After Hardware Delivery**		
• **Discover:** site inspection, lanes, user groups, rules, integrations • **Design:** LPR/TPK layout, VPGS zones, validation rules, multi-entity splits, ad touchpoints • **Apply:** Bank & Payment Gateway application • **Setup**: Cloud PMS (Casual/ Season/Valet etc), training • **Cabling**: If required • **Integrate**: 3rd party or TimeTec next activities	• **Install**: LPR & TPK Hardware installation • **Payment**: TNG,CC/DC, eWallet Direct payment system set up • **Setup**: On-Premise Cashless parking System Setup • **Training**: On-Premise System Training	• **Deploy:** entry → VPGS → Validate → Exit • Parallel run with old ticket system, or trial run if new parking system. • Switch from Old System after 4 weeks or trial run consider complete after 4 weeks	• **Rollout**: TimeTec Cashless& Touchless Parking Fully Roll-Out • **Operate**: SLAs, dashboards, alerts, settlement portal • **Optimize**: promotions, premium zones, AI forecasts, fraud/variance reduction

Note: *This is an indicative roll out timeline for reference only, timeline may vary due to requirements, site-preparation and other circumstances.*

Baseline KPIs: *Average gate time, occupancy by zone, peak spread, variance %, revenue/bay, promo ROI, fraud flags, VIP SLA.*

Chapters by Vertical

Hotels

Parking impacts the guest journey from check-in to checkout. Friction at the gate or poor validation ruins first impressions. Hotels also need event, dining, and loyalty tie-ins.

Key Challenges

- Long queues at valet or exit
- Manual validation for dining/events
- Limited guest payment choices
- Inconsistent security/audit

timeTec Fit HOTELS
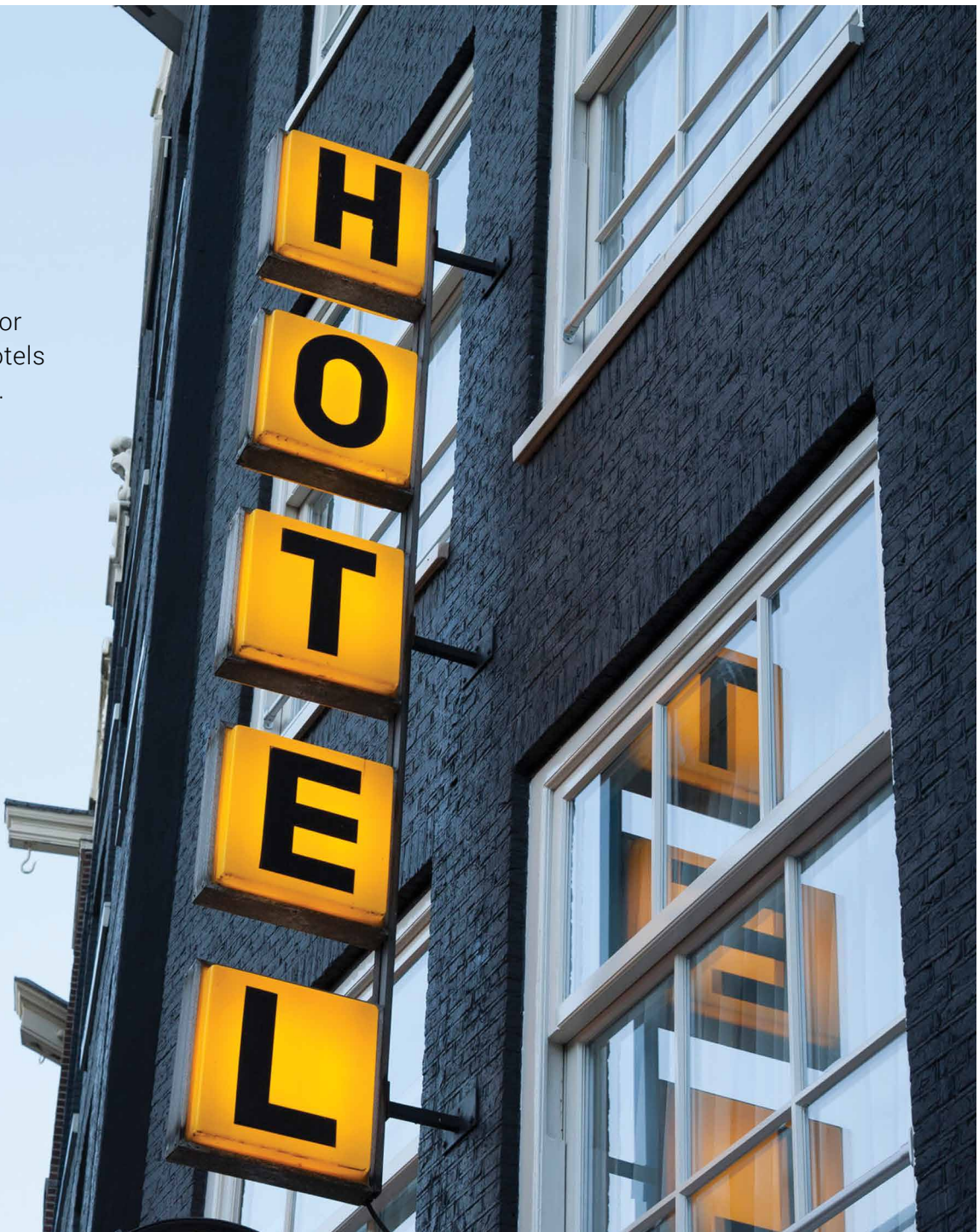
- **LPR ticketless entry/exit –** cashless & touchless user experience
- **PMS & POS validation -** stay, dining, events
- **Multi eWallet Direct Payment –** TNG, Setel, Flexi App, GoNet, etc.
- **Valet module -** with digital tracking
- **Ads on kiosks -** promotions

Quick Checklist

- ✅ Integrate PMS & POS
- ✅ Configure event/dining validations
- ✅ Train valet staff
- ✅ Enable F&B promotions at kiosks

Mini Comparison Table

Aspect	Traditional Hotel Parking	Smart Parking (TimeTec)
Entry & Exit	Tickets, queues at valet/boom gates	LPR ticketless, touchless
Validation	Manual stamping for guests/events	PMS & POS-integrated validation
Payments	Cash/card kiosks only	Multi eWallet, cards, member loyalty
Valet	Manual, prone to disputes	Digital valet module with audit trail
Reporting	Basic tally	Cloud dashboard + audit logs
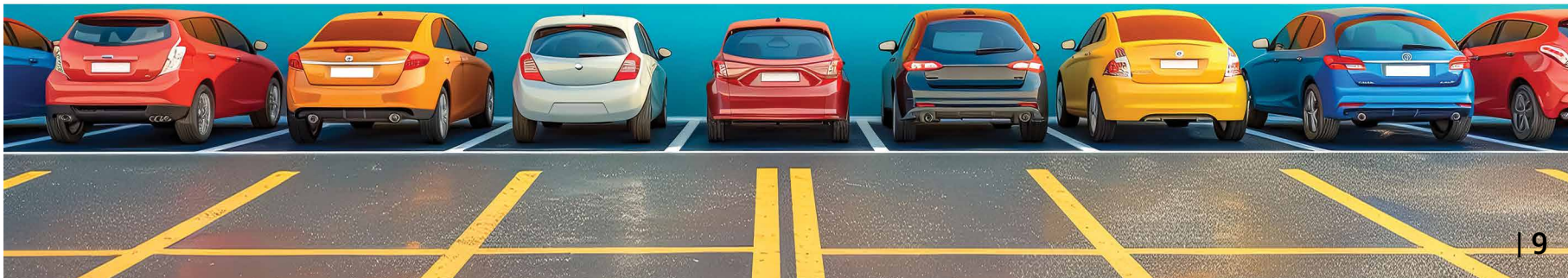
Shopping Malls

Shopping malls thrive on high visitor turnover and tenant-driven promotions. Parking is more than a utility — it's a retail conversion tool. Poor parking experience (queues, lost tickets, cash-only kiosks) frustrates visitors and weakens tenant loyalty.

Key Challenges

- 🕐 Peak-hour congestion
- 📄 Complex tenant validations
- 💳 Limited payment options
- 🗓 Revenue leakage & disputes

timeTec Fit SHOPPING MALLS

- **LPR Ticketless Entry/Exit –** no tickets, faster flow
- **POS-integrated Validation –** spend/time-based rules for tenants
- **Multi eWallet Direct Payments –** TnG, Setel, GoNet, Flexi, etc.
- **VPGS + Parked Vehicle Search –** guides drivers, reduces circling
- **Ads & Promotions –** digital kiosks, personalized offers
- **Multi-Entity Revenue Separation –** mall, hotel, convention centre

Quick Checklist

✅ Integrate tenant POS with TimeTec Validation Engine

✅ Activate eWallet Direct to cut variance

✅ Enable premium/VIP zones near entrances

✅ Sell ad space on kiosks & barriers

✅ Monitor occupancy in real time via dashboard

Mini Comparison Table

Aspect	Traditional Mall Parking	Smart Mall Parking (TimeTec)
Entry & Exit	Tickets, long queues	LPR ticketless, touchless
Validation	Manual stamping	POS-integrated, mall-wide
Payments	Cash/cards only	Multi eWallets + cards
Parking Guidance	None	VPGS + app occupancy
Promotions	Static posters	Digital, personalized ads
Revenue Control	Shared, opaque	Cloud separation & reporting
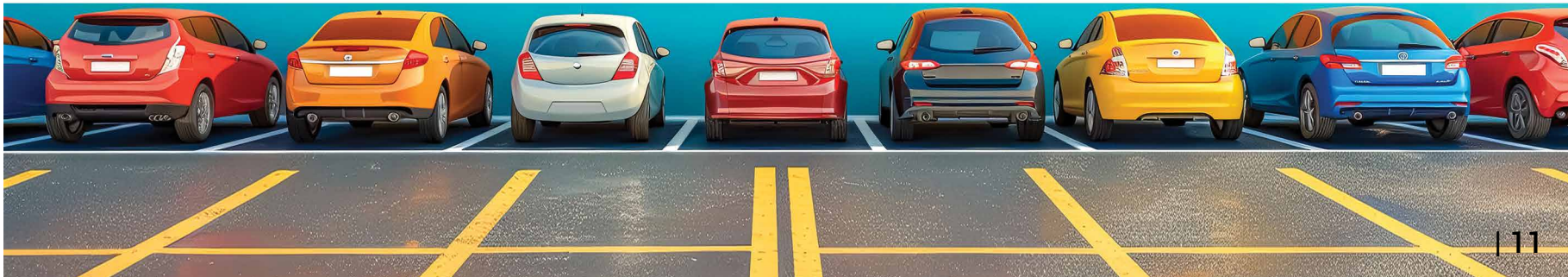
Hospitals

Hospitals need 24/7 secure, accessible parking with priority for emergencies. Patients, visitors, staff each require tailored rules.

Key Challenges

- Ambulance/VIP access
- Patient/long-stay validations
- High visitor turnover
- Overnight security

timeTec Fit HOSPITALS

- **Priority Lane Access –** ambulance/VIP fast lanes
- **Digital Validation –** Patient/outpatient validation links
- **LPR ticketless –** cashless & touchless payments
- **Staff season parking –** Linkable to TimeTec HR – Payroll and Attendance
- **Parking Guidance –** VPGS for visitors, 24/7 logs

Quick Checklist

- ✅ Quick Checklist:
- ✅ Set ER/VIP fast lanes
- ✅ Configure outpatient validations
- ✅ Activate staff season rules
- ✅ Monitor 24/7 security dashboard

Mini Comparison Table

Aspect	Traditional Hospital Parking	Smart Parking (TimeTec)
Priority Access	Manual barriers for ambulances	Dedicated fast-lanes with LPR
Validation	Paper permits for patients	Outpatient/admission-linked validation
Staff Parking	Stickers/cards prone to misuse	Season parking with LPR/RFID
Payments	Cash kiosks	Cashless, eWallet-enabled
Security	Minimal CCTV	Integrated CCTV + audit trail

Airports

Airports demand scale and flexibility: short-term, long-term, valet, ride-hail, EV. Pre-booking is critical for passengers.

Key Challenges

- Peak holiday congestion
- No pre-booking
- Ride-hail/EV unmanaged
- Difficult revenue split across terminals

timeTec Fit AIRPORTS

- **Pre-booking -** app integration
- **Flexi Rates -** Multi-zone (short/long/VIP) pricing
- **eWallet Direct** - Multi eWallets (TnG, Setel, Flexi, GoNet) for cashless payments
- **Reserved bays -** for airlines/partners
- **Parking Guidance -** VPGS + parked vehicle search
- **Integration -** EV & ride-hail integration

Quick Checklist

- ✅ Deploy pre-booking API
- ✅ Configure zone rules
- ✅ Enable EV/ride-hail integration
- ✅ Split revenue by terminal/partner

Mini Comparison Table

Aspect	Traditional Airport Parking	Smart Parking (TimeTec)
Pre-Booking	Rare, manual phone/email	Online/app pre-booking
Zones	Generic parking	Short/long-term, premium, VIP
Payments	Cash/card kiosks	Multi eWallet, cards, loyalty
Reserved Bays	Minimal VIP	Dedicated airline/car-rental/partner bays
Parking Guidance	None	VPGS + mobile app occupancy
Revenue Split	Hard to separate	Multi-entity automated split
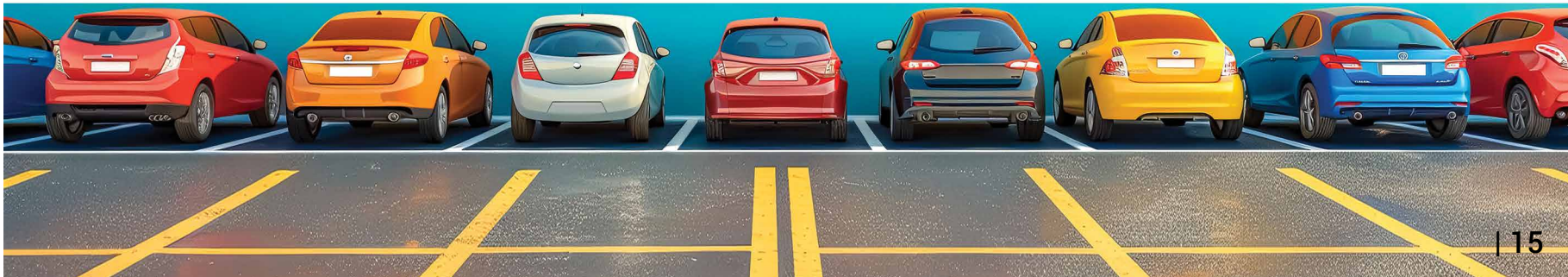
Office Towers

Tenants expect seamless season passes, visitor management, and transparent billing. Parking ties directly into workplace access.

Key Challenges

- Manual season pass renewals
- Visitor queues at guardhouse
- Complex tenant cost allocation
- Weak integration with building access

timeTec Fit OFFICE TOWERS

- **Season parking –** Embedded in TimeTec iTower App
- **Visitor Preregistration –** Integrate with TimeTec Visitor with QR/LPR, Parking fee absorbs by host
- **Billing -** Tenant-based billing & reporting
- **Access Control -** Turnstile & lift access integration with TimeTec Access
- **White-label -** branding for owners

Quick Checklist

- ✅ Activate iTower App
- ✅ Set up tenant billing rules
- ✅ Train guards for QR visitor flow
- ✅ Link with turnstile/lift access

Mini Comparison Table

Aspect	Traditional Office Parking	Smart Parking (TimeTec)
Season Parking	Stickers/cards, manual renewal	Digital season passes via iTower App
Visitor Parking	Guardhouse registration	QR/LPR visitor pre-reg
Tenant Billing	Shared, opaque	Tenant-level billing & reporting
Access Control	Disconnected from building systems	Integrated with turnstile & lift access
Branding	Generic operator system	White-label iTower App
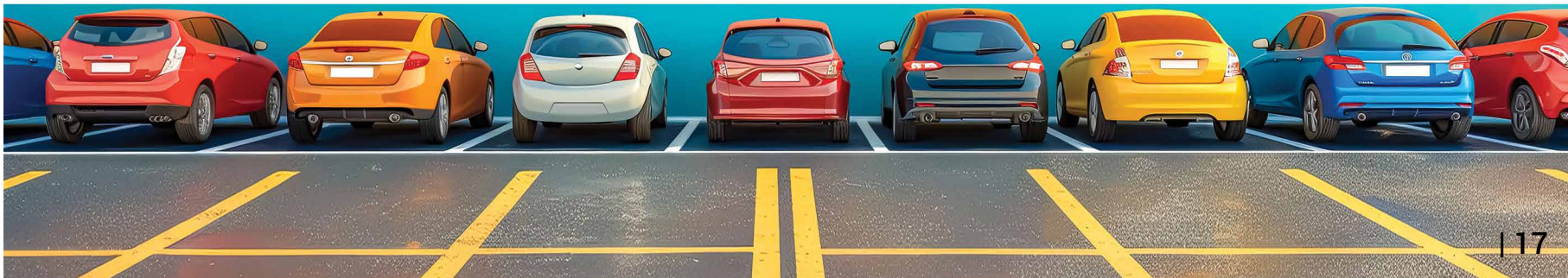
Residential Properties

Residents demand security, convenience, and community integration. Visitor friction and unauthorized use are common pain points.

Key Challenges

- 🚕 Resident sticker misuse
- 🕐 Guardhouse visitor queues
- 📄 No integration with condo billing
- 🔒 Unauthorized parking disputes

timeTec Fit RESIDENTIAL PROPERTIES

- **LPR/RFID -** resident car access
- **Visitor -** Visitor pre-registration in TimeTec iNeighbour App
- **Optional visitor fee –** cashless parking fee collection
- **Security -** Blacklist/whitelist rules
- **Notices -** Community notices via kiosks

Quick Checklist

- ✅ Map units to vehicles
- ✅ Train guards on QR visitor flow
- ✅ Link parking to billing
- ✅ Configure blacklist rules

Mini Comparison Table

Aspect	Traditional Condo Parking	Smart Parking (TimeTec)
Resident Access	Stickers/cards, easily shared	LPR/RFID touchless, unit-linked
Visitor Access	Manual logbooks at guardhouse	Pre-registration with QR/LPR
Payments	Manual collection, separate from condo bills	Linked to TimeTec iNeighbour billing
Security	Limited enforcement	Blacklist/whitelist controls
Community Comms	Static boards	Digital notices at kiosks/barriers
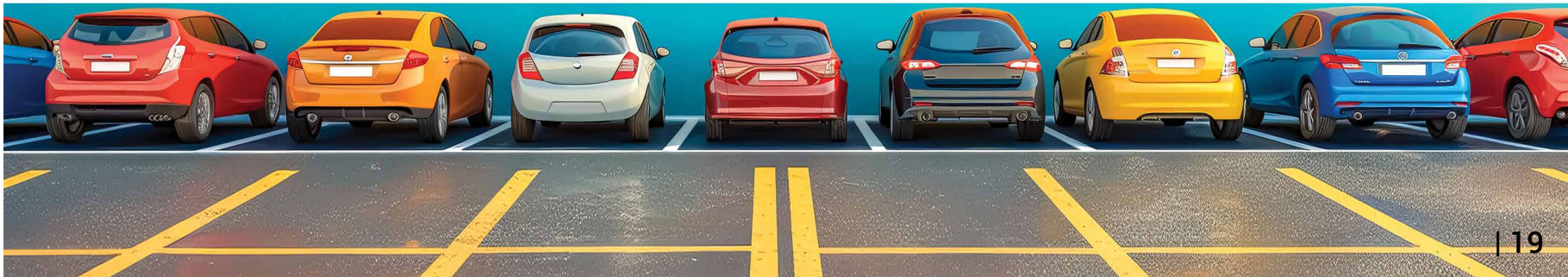
Universities & Campuses

Campuses manage thousands of students, staff, and event visitors. Semester passes and event spikes make parking complex.

Key Challenges

- Manual semester permits
- Convocation/event surges
- Limited staff zones
- Lack of analytics

timeTec **Fit** UNIVERSITIES & CAMPUSES

- **Temporary Pass -** Digital semester passes
- **Zone Allocation -** Staff/visitor zone allocation
- **Event Parking -** Pre-booked event parking and Rate
- **eWallet Direct -** Multi eWallet payments (TnG, Setel, Flexi App, GoNet)
- **Parking Guidance -** VPGS with occupancy app display

Quick Checklist

- ✅ Digitize semester passes
- ✅ Configure staff/visitor zones
- ✅ Enable event pre-book
- ✅ Monitor occupancy via app

Mini Comparison Table

Aspect	Traditional Campus Parking	Smart Parking (TimeTec)
Student Passes	Paper/physical permits	Digital semester passes
Event Parking	Manual allocation	Pre-booking linked to events
Staff Parking	Limited enforcement	Reserved staff zones
Payments	Cash permits	Multi eWallet & online payments
Occupancy	Manual counts	VPGS + app display
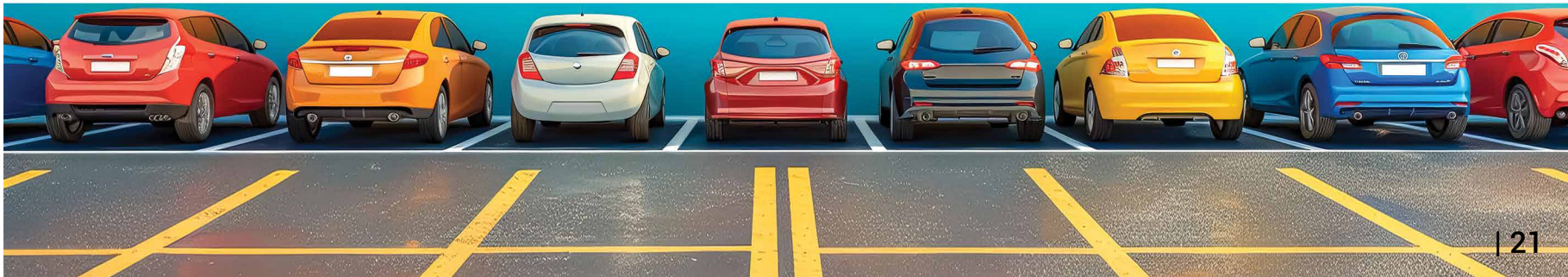
Convention & Exhibition Centres

Events create surges and require flexible rules. Organizers need parking tied to facility bookings, with sponsor visibility.

Key Challenges

- Event surges
- Ticketing not linked to parking
- Exhibitor/vendor permits manual
- Shared revenue complexity

timeTec Fit CONVENTION & EXHIBITION CENTRES

- **Event Handling -** Event ticket + parking integration
- **LPR -** Exhibitor/vendor QR or LPR passes
- **VIP -** reserved allocations
- **Multi-entity revenue split –** Clear income for different entities
- **Ad Revenue -** Sponsor ads on kiosks/barriers

Quick Checklist

- ✅ Connect ticketing system
- ✅ Configure vendor rules
- ✅ Set VIP allocations
- ✅ Sell sponsor ad slots

Mini Comparison Table

Aspect	Traditional Event Parking	Smart Parking (TimeTec)
Ticketing Link	Parking sold separately	Integrated ticket + parking + visitor + access + event
Exhibitor/Vendor Access	Paper passes	QR/LPR vendor permits
VIP Zones	Hard to enforce	Digitally reserved bays
Revenue Control	Shared, unclear	Multi-entity split by organiser
Promotions	Limited static ads	Sponsor branding at kiosks/barriers

Government Buildings

Security, transparency, and multi-agency fairness are top priority. Parking must link to appointments and staff HR records.

Key Challenges

- Public visitor queues
- Manual counters & permits
- Weak VIP bay enforcement
- No multi-agency separation

timeTec Fit GOVERNMENT BUILDINGS

- **Appointment-linked -** visitor parking with TimeTec Visitor
- **HR-linked -** staff vehicle access (blocked if on leave/outstation)
- **Reserved Bays -** VIP allocations with audit trails
- **Multi-agency –** Separation revenue & usage reporting
- **Government -** branded TimeTec Building and iTower App

Quick Checklist

- ✅ Sync appointment system
- ✅ Enable HR attendance link
- ✅ Configure VIP zones
- ✅ Separate reports by ministry

Mini Comparison Table

Aspect	Traditional Gov't Parking	Smart Parking (TimeTec)
Visitor Access	Manual counters/logbooks	Appointment-linked QR/LPR access
Staff Parking	Stickers/cards, prone to abuse	HR-linked attendance gating
VIP Zones	Hard to enforce	Audit-trail reserved bays
Multi-Agency Split	Manual, disputed	Automated separation by ministry
Comms	Static noticeboards	Digital PSAs on kiosks/barriers
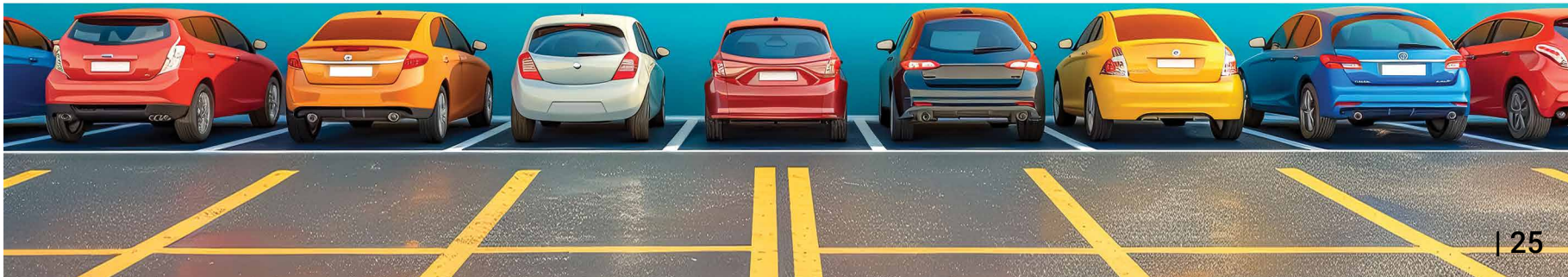
Industrial Parks & Logistics Hubs

Industrial sites juggle lorry bays, shift workers, contractors, and strict perimeter control. Efficiency and security are vital.

Key Challenges

- Lorry bay congestion
- Shift-based worker surges
- Manual contractor passes
- Security risks & revenue disputes

timeTec Fit INDUSTRIAL PARKS & LOGISTICS HUBS

- **HR-linked -** staff vehicle access
- **Pre-booked -** truck/lorry slots with time limits
- **Contractor/visitor pre-registration -** in TimeTec iTower App
- **Revenue separation -** Tenant-based revenue separation
- **Safety alerts -** on kiosks/barriers and App

Quick Checklist

☑ Link HR rosters to parking

☑ Configure truck bay slots

☑ Enable contractor pre-reg

☑ Separate reports per Tenant

Mini Comparison Table

Aspect	Traditional Industrial Parking	Smart Parking (TimeTec)
Truck Bays	First-come, congestion	Pre-booked slots with time limits
Staff Parking	Stickers/cards, misuse	HR-linked shift access
Contractor Access	Manual logbooks	Pre-reg via Building App
Multi-Tenant Split	Manual billing	Automated tenant-based separation
Security	Minimal CCTV	LPR + blacklist controls
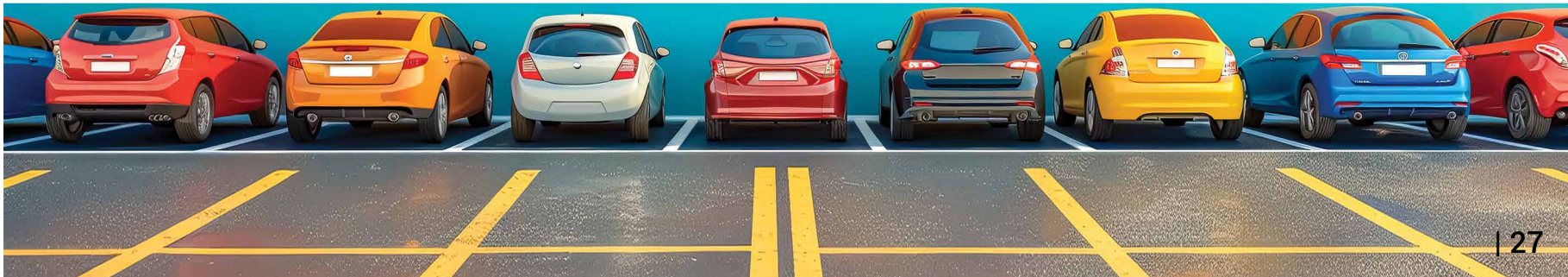
Theme Parks & Tourist Attractions

Attractions live or die by the guest journey. Parking is the first impression: if queues, cash-only kiosks, or unclear zones slow guests down, satisfaction (and spending) drops before entry.

Key Challenges

- Massive peaks (weekends, school holidays, events)
- Tickets & parking sold separately, no pre-book
- Tour bus congestion, unclear zones (VIP/EV)
- Cash/card kiosks cause exit jams
- Little data for pricing or staffing

THEME PARKS & TOURIST ATTRACTIONS

- LPR Ticketless Entry/Exit for fast lanes
- Ticketing Integration & Pre-Booking (bundle entry + parking; QR/LPR check-in)
- VPGS + Real-Time Occupancy on signboards/app
- Segmented Zones: VIP, season pass, tour bus, EV charging
- Valet/Premium Parking with audit trails
- Digital Ads/Upsell (meals, merch, hotel packages) at kiosks/barriers
- AI Forecasting for holiday peaks & overstay alerts

Quick Checklist

- ✅ Connect ticketing to TimeTec Parking (bundle parking at checkout)
- ✅ Configure VIP/bus/EV zones + premium pricing
- ✅ Enable VPGS and app/screen occupancy
- ✅ Launch exit eWallet payments to cut queues
- ✅ Schedule holiday peak alerts & staffing via AI

Mini Comparison Table

Aspect	Traditional Attraction Parking	Smart Parking (TimeTec)
Pre-Booking	Walk-in only	Online/app pre-book, bundled with tickets
Entry/Exit	Tickets & queues	LPR ticketless, touchless
Zones	General parking only	VIP, bus, EV, season pass enforced
Guidance	None	VPGS + app availability
Payments	Cash/card kiosks	eWallets/cards/loyalty
Monetization	Static posters	Digital ads & upsell flows
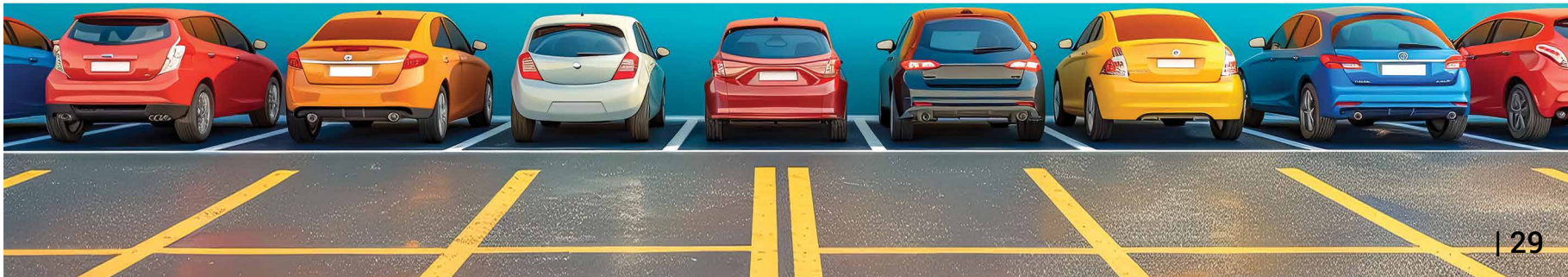
Cross-Vertical Comparison Matrix

One Ecosystem, Eleven Verticals

Every industry has unique needs. TimeTec Smart Parking adapts with modular features, unified under one cloud platform.

Traditional parking systems treat all sites the same. In reality, hotels, airports, government buildings, and factories etc. each have different requirements.

The matrix below shows how TimeTec Smart Parking meets these needs across 11 verticals.

Capability	Hotel	Mall	Hospital	Airport	Office	Resi.	Univ.	Conv.	Govt	Indust.	Theme Park
LPR Ticketless Entry/Exit	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
eWallet Direct & Cashless	✔	✔	✔	✔	✔	◐	◐	◐	◐	◐	✔
Validation Engine (PMS/POS/Event/Appointment)	✔ PMS/Events	✔ POS	✔ Patient/Outpatient	✔ Tickets	—	—	✔ Semester/Event	✔ Ticket/Event	✔ Appointments	—	✔ Tickets/Packages
VPGS + Occupancy Counting	✔	✔	✔	✔	✔	◐	✔	✔	✔	✔	✔
Reserved & VIP Bays	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Multi-Entity Revenue Separation	—	✔	—	✔	✔	—	✔	✔	✔	✔	◐
Mobile App Integration	Hotel/Loyalty	Mall App	Hosp App	Airport App	iTower	iNeighbour	Campus App	iTower	iTower	iTower	iTower
HR-Linked Access Control	◐	◐	◐	◐	◐	—	◐	◐	✔	✔	◐
Valet Module	✔	✔	✔	✔	◐	—	◐	✔	—	◐	◐
Ads, Promotions & Messaging	✔	✔	◐	✔	✔	✔	✔	✔	✔	✔	✔
AI Analytics & Forecasting	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔

Legend: ✔ *Supported* ◐ *Optional/Configurable* — *Not Applicable*

Every tick = a feature delivered. The power of TimeTec is in combining them into one ecosystem — tailored by vertical, but managed from a single cloud dashboard

Security, Privacy & Compliance

- Auditability: per-lane, per-user, per-vehicle logs.
- Data protection: role-based access, retention policies, PDPA/GDPR-aligned.
- Standards: ISO 27001-aligned practices across cloud services.
- Safety: blacklist/whitelist, anomaly alerts, variance reduction.
- Other Compliances: e-Invoicing, Metrology.

Appendices

A) Quick RFP Checklist

- LPR accuracy & low-light performance
- eWallet/EMV rails; settlement & variance tools
- Validation engine (time/spend/event/appointment)
- VPGS & counting; lane controller compatibility
- Apps: TimeTec Parking / iTower / iNeighbour / TimeTec Visitor / TimeTec Access / TimeTec HR; white-label options
- Integrations: PMS/POS/Ticketing/HR/Access Control/Billing
- Multi-entity revenue separation
- Dashboards, exports, APIs, webhooks
- Security: audit trails, blacklist, SSO/SCIM (if needed)
- Parking Accounting (if needed)
- SLAs, spares, training, support model

B) ROI & Payback (Back-of-Envelope)

- Incremental revenue = (Premium bays + Ads + Validations-driven lift) – Promo costs
- OPEX savings = (Less manual staffing + lower variance + fewer disputes)
- Payback months ≈ (CAPEX + Setup) ÷ (Incremental revenue + OPEX savings)

C) Launch Playbook (30/60/90)

- 30: data capture, lane audit, rule design, pilot zone
- 60: integrations live, staff training, comms & signage
- 90: full roll-out, KPI review, promo, board report

D) Boilerplate CTAs (per buyer)

- Owner/Developer: "Turn parking into an asset with TimeTec's unified ecosystem."
- Operator/FM: "Cut queues, variance & disputes with LPR + eWallet Direct + validation."
- CIO/CTO: "Open APIs, cloud dashboards, secure audit trails."
- Security: "Full vehicle identity, blacklist controls, access control, CCTV camera, HR-linked entry (opt)."

Final CTA

Ready to Transform Your Parking?

Book a tailored walk-through of TimeTec Smart Parking + TimeTec Visitor + TimeTec Access + TimeTec iNeighbour + TimeTec Building & iTower and TimeTec HR where required. We'll map your lanes, rules, and revenue model, then show the exact dashboard you'll use on Day One.

11 industries. One Ecosystem.

Powered by timeTec

timeTec