



ACQUIRING EV CHARGING NETWORK MANAGEMENT TECHNOLOGY

Choosing Between
Build | Buy | Hybrid

VerdeMobility

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This ebook presents the pros and cons of build vs. buy when implementing an EV charging management platform, while examining the viability and benefits of a hybrid option in which some modular capabilities are purchased out-of-the-box, while other capabilities and integrations are developed in cooperation with the platform vendor to meet specific business needs.

01

Introduction

In 2023 global electric vehicle (EV) sales jumped 35%, with some estimates putting 240 million EVs on the roads by 2030. Critical to this growth in EV adoption is the rise of the charging infrastructure and an entire ecosystem of service providers, including Charge Point Operators (CPOs), eMobility Service Providers (EMSPs), and EV service providers (EVSPs).

The potential for monetization in the EV charging business is attracting the attention of companies in verticals that stand adjacent to the EV charging ecosystem, including, power utilities, oil & gas companies, automotive OEMs and more. Whether these companies enter the market as CPOs, EMSPs, or EVSPs, they need an EV charging and energy management platform to ensure drivers get the seamless charging experience they seek. Without smart management of EV charging, it's very hard to maintain a stable and highly available charger network.

Depending on their relative positions in the value chain, as CPOs, EMSPs, or EVSPs, each player has very specific requirements for EV charging management technology, from optimizing energy management to providing and operating scalable and highly available charging infrastructures to offering various charging tariffs, promotions, and other eMobility services, all while ensuring a seamless EV charging experience for end customers.

As critical business infrastructure for these companies, the “build vs. buy” decision for an EV charging and energy management platform is crucial. Organizations must consider their areas of expertise and business goals to decide on the best approach to acquiring a platform that can provide the pillars for success of an EV charging management business:

- Operational excellence that provides 24/7 availability of the charger network and a seamless charging experience to drivers.
- Commercial flexibility to support a wide variety of business models that meet the needs of all drivers.
- Technological leadership to keep up with the changing technology of a young evolving industry.
- Being future-proof to provide scalability along multiple vectors from number of chargers and charging sessions to number of subscribers and payment transactions, and more.

Each side of build vs. buy has a variety of pros and cons. On a practical level, each company must evaluate which approach is best suited to its plans and business needs, or whether a hybrid approach that combines the two will deliver the best ROI.

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Considerations for the Build vs. Buy Decision



The decision-making process of build vs. buy typically considers the following factors:

- Total cost of ownership (TCO)
- Economies of scale
- Controlling the process
- Business priorities
- Competitive edge
- Time to market
- Expertise
- Project v. product solution approach
- Innovation

The table below indicates where build and buy each present an advantage:

Business benefit		Buy
TCO		Advantage
Economies of scale		Advantage
Control	Advantage	
Define priorities	Advantage	
Competitive edge	Advantage	
Time to market		Advantage
Expertise		Advantage
Solution approach	Project	Product
Innovation	Domain-specific	Advantage

- Advantage
- Partial advantage

But it's also critical to keep in mind that for any given market player, the optimal solution may be "build some, buy some" (i.e., hybrid) in which you buy an underlying framework of core capabilities, and build the parts where your domain expertise can give you a competitive edge.

02

Considerations for the Build vs. Buy Decision

Analyzing Total Cost of Ownership

Building a comprehensive EV charging management solution, whether you are a CPO, an EMSP, or an EVSP, requires a significant investment in time and resources. It's critical to consider the factors that contribute to TCO.

Supporting Growth

To accommodate the exponential growth in EV adoption, the software needs to be planned, designed, delivered, and customized – then maintained and updated to support scaling up. It must continuously evolve to support the ever-changing infrastructure, charger types, network transformations, and various charging behaviors of the EV charging industry.

Investment

Buying off-the-shelf technology minimizes development costs, avoids high budget overruns, and eliminates significant investments in IT infrastructure needed for security, cloud computing, analytics, and more. “Bought” software also comes with a dedicated team that provides onboarding and support, and migrates existing solutions based on industry-leading methodologies and best practices, reducing personnel and “learning curve” costs. Furthermore, it's the vendor who continuously invests in compliance with evolving industry protocols and standards, such as OCPP, OCPI, ISO 15118, and more.

Business Models

A robust solution comes with built-in support for multiple business models that emerge from ongoing interaction with the market. The out-of-the-box functionality encourages growth and expansion for both CPOs and EMSPs (and therefore, EVSPs). Continuous upgrades ensure these players can better monetize their networks and gain competitive advantages with innovative approaches to tariffs and customer billing plans, for example, with a

focus on increasing the bottom line while reducing TCO.

Examining these factors clearly shows that the TCO consideration favors the “buy” option.

Achieving Economies of Scale

Scaling home-grown solutions to support organic growth is hard, and the costs of developing new capabilities are distributed over a minimal number of deployments. Conversely, in a “Buy” scenario, scaling up is part of the vendor's core competency. Development costs and resources are spread over many customers, enabling the vendor to formulate best practices based on experience from multiple deployments. As a result, you reap the benefits of features and capabilities developed for other market players when you buy an EV charging management solution.

Ensuring Control

When building your own solution, you have full control of the process and greater opportunity for innovation in your EV charging management software. You can create features and capabilities exactly to your specifications, adding in the flexibility to change and modify your business as you increase the number of charging stations, customer types, business propositions, billing plans, and more. You control the development roadmap.

Defining Priorities

Building your own EV charging management solution also allows you to define proprietary software functionality, prioritize the timelines, and build a comprehensive implementation schedule. For example, a utility spinning off an EVSP has very specific insights about private and business behavior patterns, what changes are needed to electrical infrastructure, the best resource prioritization, and assigning the right personnel to accelerate the process.

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Considerations for the Build **vs.** Buy Decision

Strengthening Your Competitive Edge

You know exactly what makes your business unique, what customers demand from you, and what processes need to be streamlined to succeed. By developing the capabilities and tools of your own EV charging management solution, you can fully focus on creating a distinctive value proposition that will strengthen and reinforce your competitive advantage.

Accelerating Time to Market

In a rapidly changing industry that is experiencing exponential growth, time to market is crucial to winning in the market. Buying a time-tested, field-proven system that is ready to go is always faster. Product development, QA analysis, patch fixes, and industrywide integration are already taken care of, and the system already complies with international regulatory requirements, such as those connected to security and privacy. You can have a solution that competes with the largest players in the market from day one.

Expertise

Acquiring industry expertise takes time and experience without which you risk building a software platform that can suffer from many issues such as product-market fit, efficiency and performance, scalability, security (especially when using open-source components), compliance, and more. Moreover, actively maintaining large and complex implementations while managing global deployments presents a whole new set of challenges. A vendor that provides EV charging management software to CPOs, EMSPs, and EVSPs has industry acumen gained from years of experience and can anticipate and lead the market, learning from multiple customers to ensure that the system addresses the rapidly changing needs of the industry.

Considering the Project vs. Product Solution Approach

When your main line of business is energy, gas & oil, or automobiles, software development is not necessarily one of your core competencies. Building your own EV charging management software will be handled as a project, which might impact its ability to scale and be agile. Furthermore, business models tend to change over time. A solution to one model may not necessarily be easily adopted to a different model. You must be able to react fast to changing market needs. Conversely, with a “Buy” product approach, you can select a comprehensive solution that best addresses your evolving business challenges and accelerates your company’s ability to grow with the market. Robust, scalable, and modular off-the-shelf software lets you choose the EV charging management capabilities required for launch and quickly add more modules as your business develops.

Accelerating Innovation

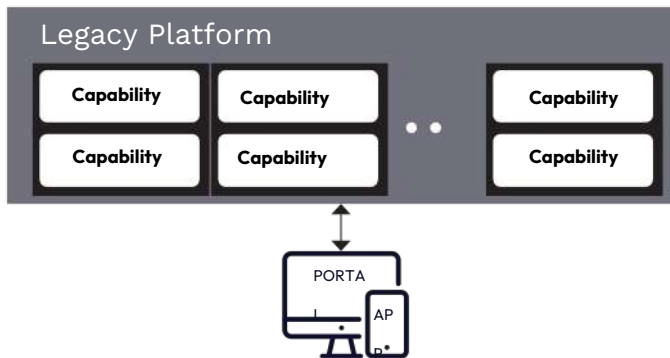
When you don’t have to build everything, you can leverage your specific domain expertise to customize specific capabilities that deliver a true competitive advantage. At the same time, by leaning on a pre-built framework you can benefit from innovation around the core capabilities of a mature EV charging and energy management platform. Buying technology from a vendor that already serves leading industry players means you are keeping up with, and even driving technological improvements and addressing all the complexity an end-to-end solution requires. You can even be one of the organizations formulating new standards for the EV charging industry.

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Resolving the Build vs. Buy Dilemma

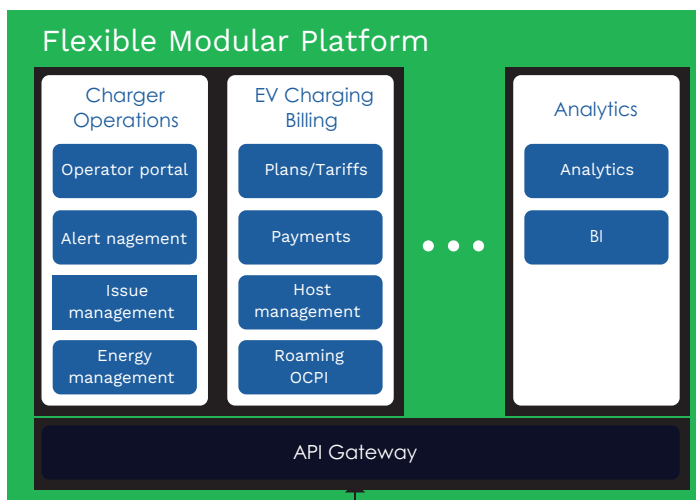
A company can decide to build its own platform, buy a complete end-to-end solution, or take a hybrid approach in which it buys some capabilities and builds others. However, there are some use cases in which guiding principles can help resolve the question of “build”, “buy” or “hybrid”, based on the company profile, it’s current position in the ecosystem and current EV charging management capabilities.

Use Case: Change the Back End, Keep the App



Company profile

- Early entrants into the EV charging market
- Legacy home-grown platform
- Good customer-facing app and web Portal
- Outdated, underperforming, stagnating back end (scalability issues, can't keep up with fast-paced market)



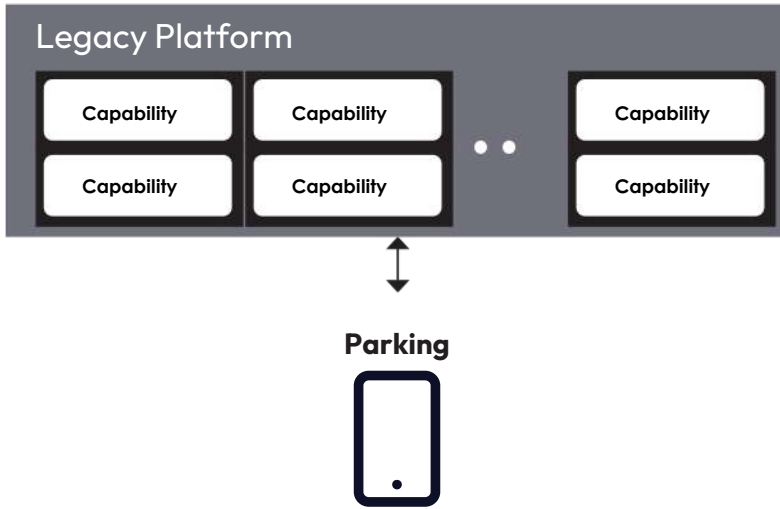
Result

- Same familiar customer-facing interface
- Flexible, modular, robust, scalable back end
- Extensive back-end capabilities
- Option for innovative new features
- Custom development may be required

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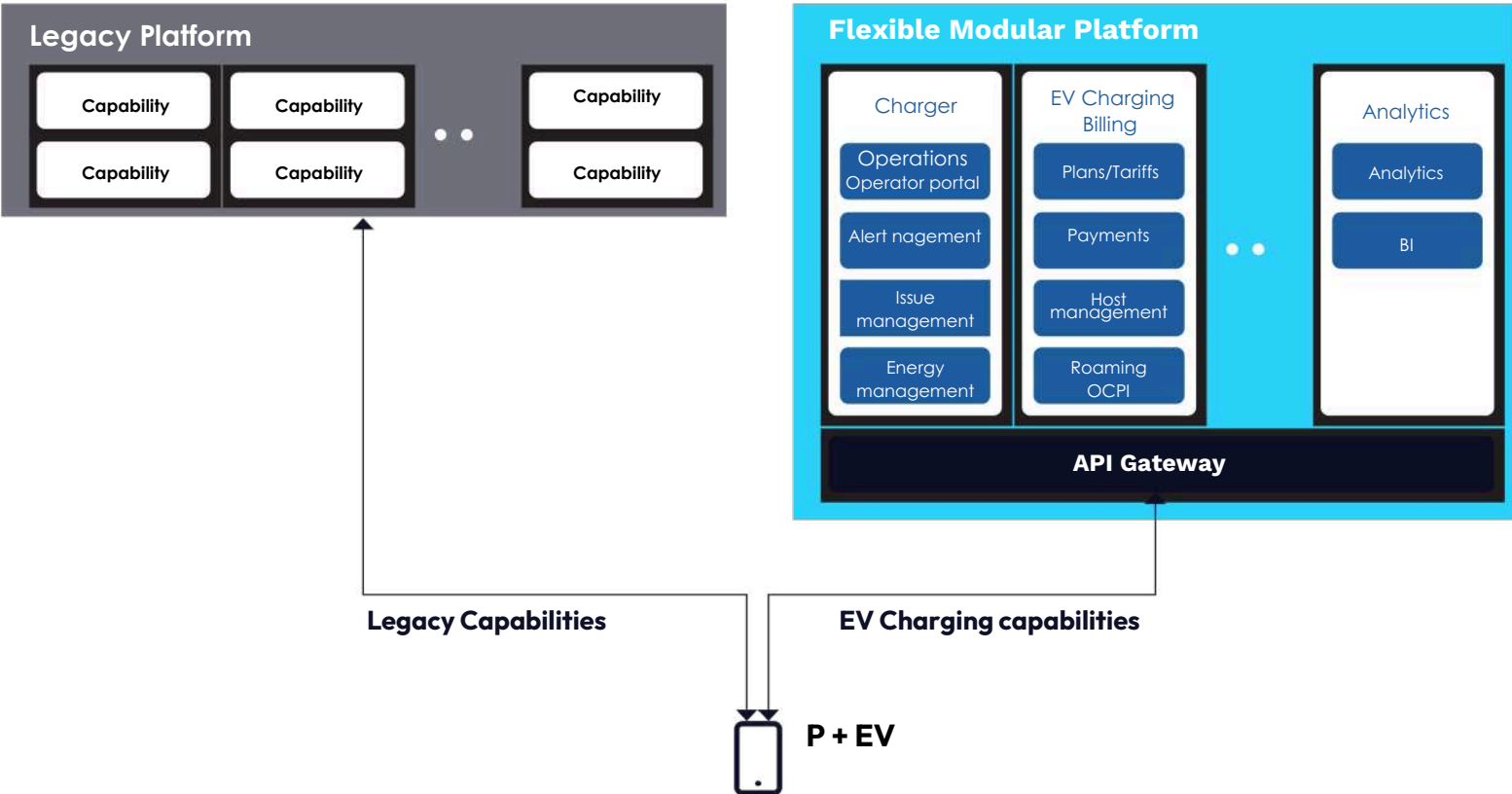
Resolving the Build vs. Buy Dilemma

Use Case: Adding EV Charging to an App for an Existing Service



Company profile

- Existing service that already has an app (e.g., parking facilities)
- Launching EV charging business. Wants to add EV charging to app
- Has no back-end EV charging capabilities



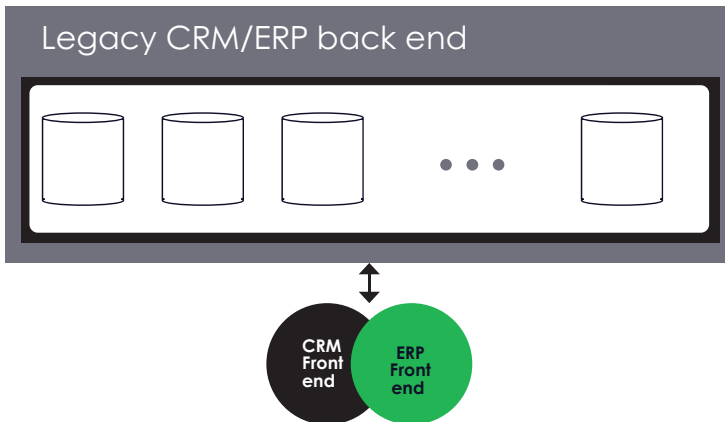
Result

- Rapid time to market
- Legacy capabilities continue to be handled by the legacy platform
- EV charging capabilities and technologies (OCPP, OCPI etc.) are handled by the back-end EV charging management platform

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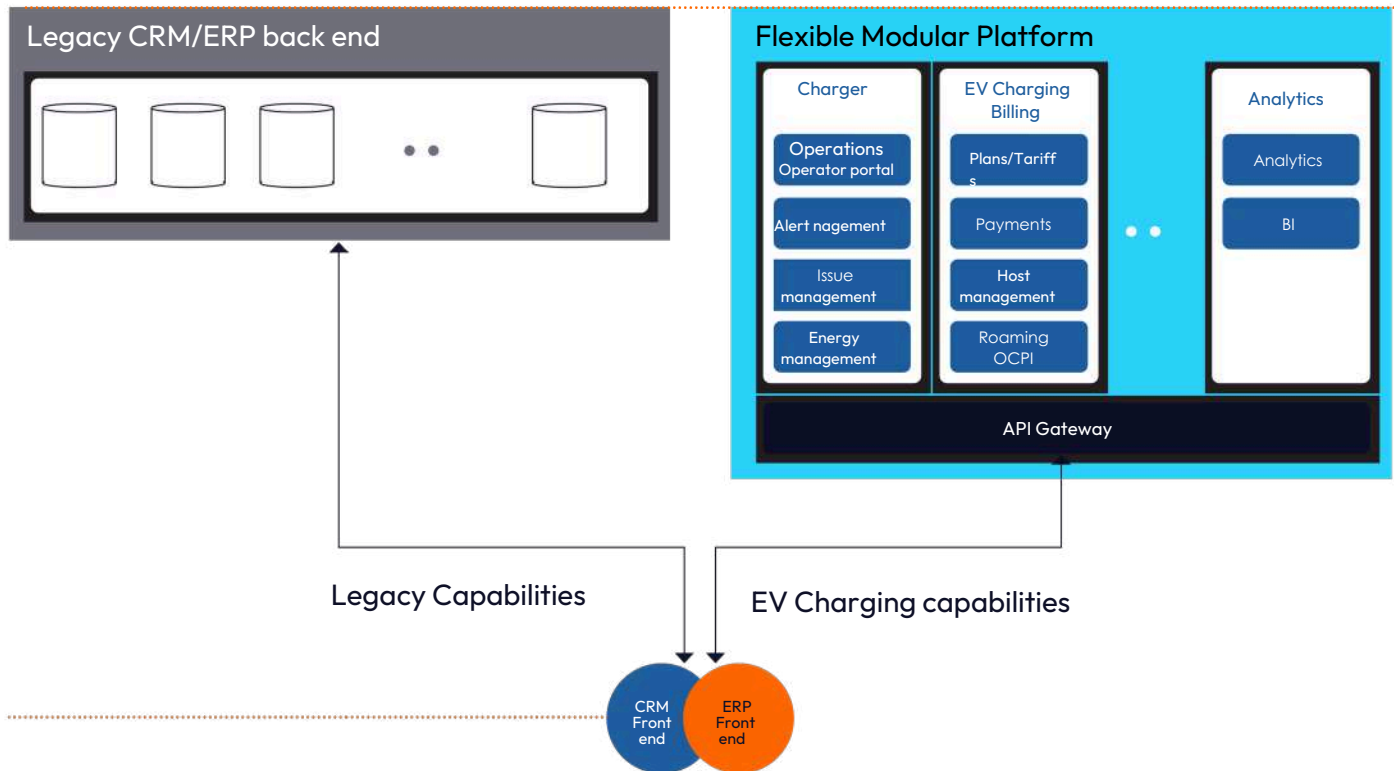
Resolving the Build vs. Buy Dilemma

Use Case: Using Legacy Enterprise Software to Manage EV Charging Operations



Company profile

- Company is a large enterprise
- Legacy CRM and ERP systems are at the heart
- Company wants to continue using them to the fullest extent possible



Result

- Company continues using CRM/ERP for legacy activities as usual
- CRM/ERP systems access EV charging capabilities to the fullest extent possible through the platform's extensive APIs

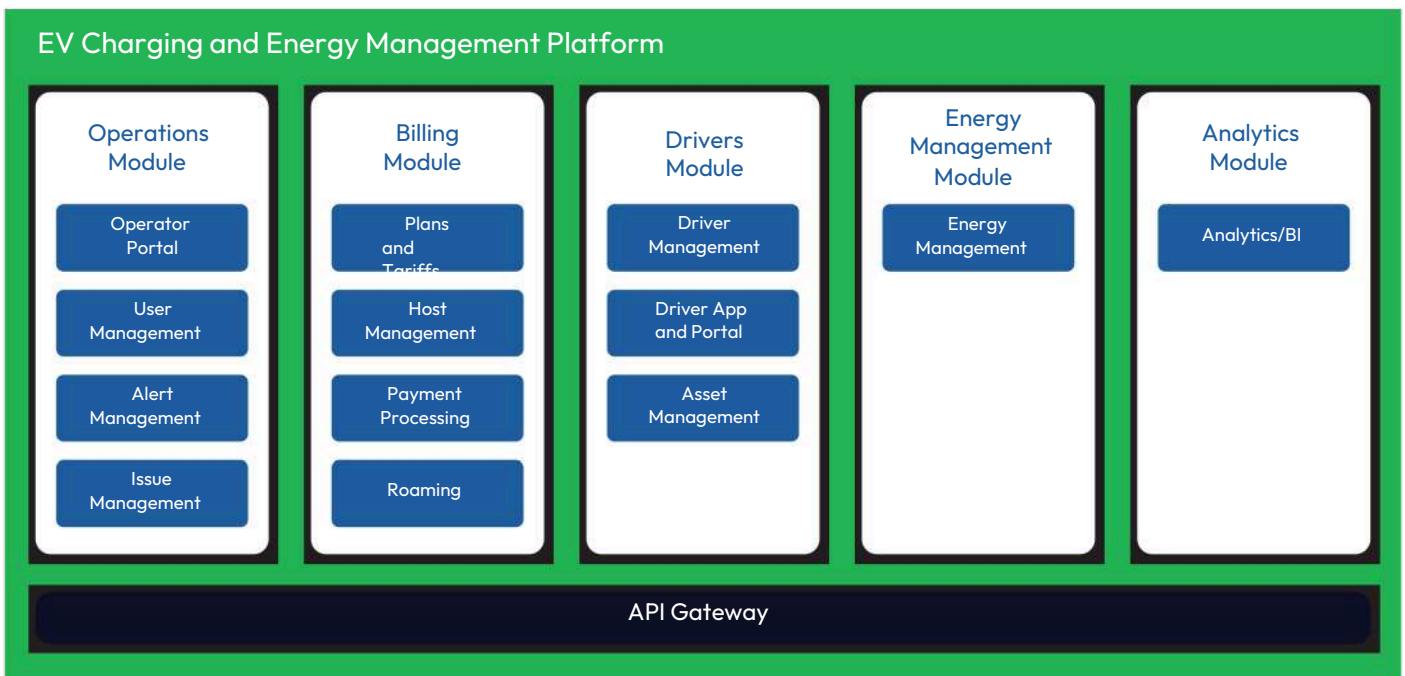
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Resolving the Build **vs.** Buy Dilemma

Use Case: New Market Entrants (Greenfield Companies)

Company profile

- New market entrant
- Developing EV charging business from scratch
- Bootstrapping the EV charging business is very
- complex EV charging Platform may take years to build
- High TCO



Result

Comprehensive white labeled, modular end-to-end platform offers maximum benefit

- Start with minimal viable solution for quick time to market
- Add modules as business develops
- Robust time-tested, field-proven platform
- Reduce TCO

04

Building a Future-Proof EV Charging Management Business



The best approach to EV charging network management technology is one that offers flexibility. The flexibility to buy a complete end-to-end platform or start with only those modules that meet the immediate business needs, and add more capabilities as the business grows.

To leverage individual competitive advantages, a network operator should work with the platform vendor to create a unique fit for their business by developing customized features or API-based external functionality, such as customized invoices, analytics, reports, and more.

To enable monetization of the network, the platform should offer flexibility in formulating innovative tariffs, plans, and products tailored to attract a wide variety of drivers, supporting multiple business models and charging behaviors.

To influence the product design and enhancement process, the network operator can provide feedback, working together with the platform vendor. By forming a community with the vendor's other customers, users, and experts, the operator gains a framework for answering questions, and sharing ideas. As research and feedback turns into new features and capabilities in the platform, the operator can enjoy upgrades without any development costs.

The flexible approach results in reduced TCO, scalability, rapid time-to-market, and quick access to innovative features out-of-the-box. By removing the business and technical obstacles encountered when working with proprietary “home-grown” solutions, a flexible EV charging management platform empowers the operator with business flexibility in a world of disruption and change.

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VerdeMobility's Offering: From End-to-End to Hybrid

VerdeMobility offers the best of both “Build” and “Buy,” giving you the flexibility to implement and evolve your EV Charging platform according to your business needs.

Comprehensive End-to-End Solution

With a team of EV industry experts, VerdeMobility can deliver a comprehensive solution with innovative, built-in functionality that accelerates time-to-market for EV industry players. As an end-to-end platform, VerdeMobility offers modules to address all aspects of an EV charging business.

- **Operations module**

Manage all aspects of the charging stations in a network – detailed logging, charging sessions, status reports, diagnostics, remote issue management, and more.

- **Billing module**

End-to-end billing and payment processing, including plans and tariffs, managing multiple hosts, roaming agreements, payment gateways and more.

- **Drivers Module**

Enables drivers to register to a service, manage their profile, search for chargers and manage their charging experience.

- **Energy Management Module**

Optimize energy consumption for EV charging through smart utilization of the grid, renewable energy sources and local battery storage.

- **Analytics Module**

provides a variety of reports around charger statuses and usage, transactions, faults and issues, maintenance, drivers' charging behavior, detailed billing information, revenue, profits and losses, receivables, payables, invoicing and more.

- **Custom Solutions:**

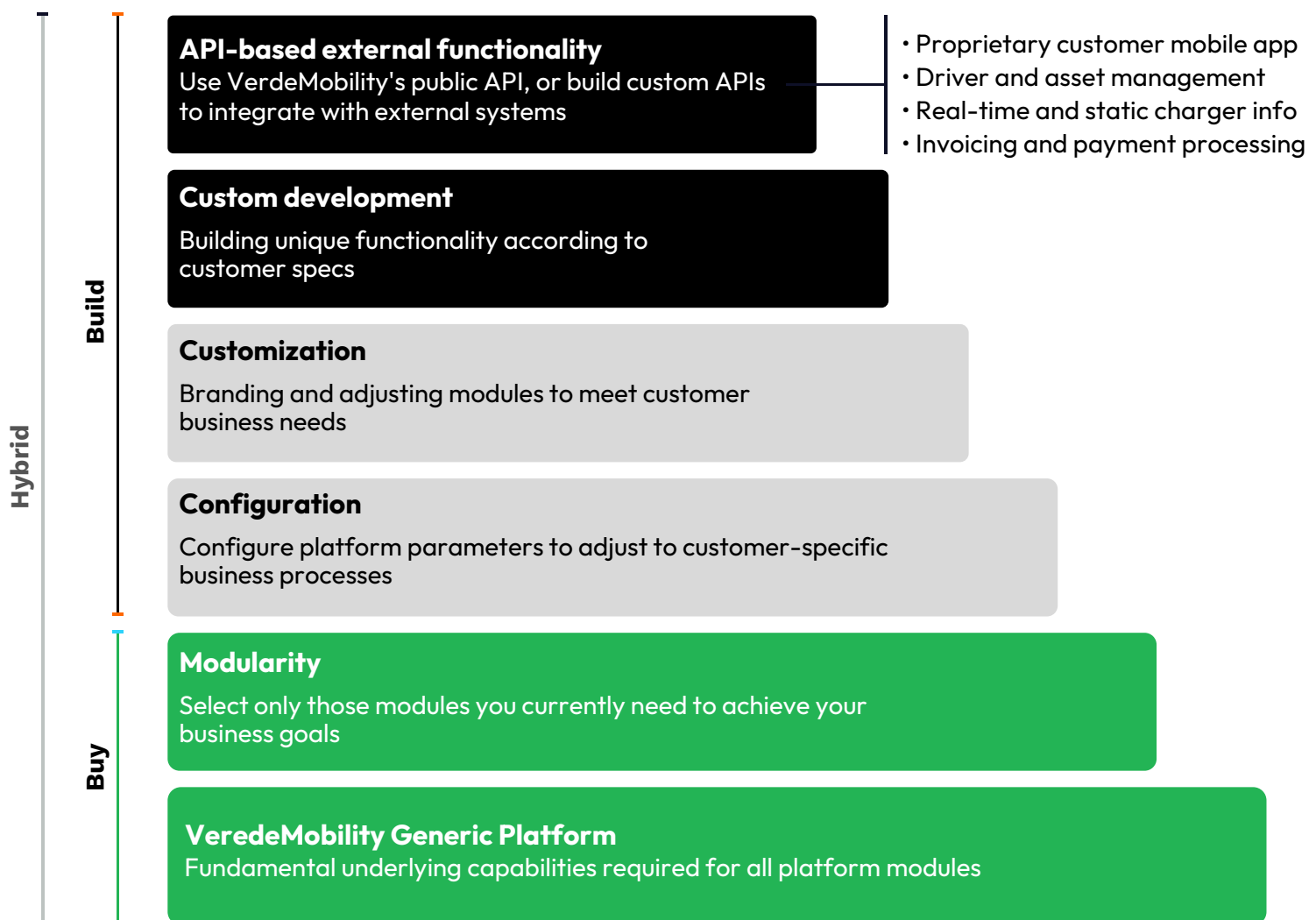
As an open system, any of the modules can be enriched with proprietary, custom-built enhancements and API-based external functionality.

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VerdeMobility's offering: From End-to-End to Hybrid

The Hybrid Approach

While the VerdeMobility platform offers all the capabilities of a complete end-to-end EV charging and energy management solution, it is also modular, customizable, and easy to integrate with external systems to support the development of customer-specific features tailored to achieve individual corporate objectives. As an open system, any of the modules can be enriched with proprietary, custom-built enhancements and API-based external functionality.



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