INSIGHT REPORT

UNLOCKING VALUE IN ENTERPRISE IoT: MARKET STRATEGIES

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Introduction

Introduction

This new insight report from MEF and TecFutures explores strategic and tactical actions that suppliers can take to unlock value in the rapidly changing enterprise IoT market. Based on in-depth interviews with **Eseye, Pelion, Pod Group, Vodafone and ZARIOT**, the report examines the evolving enterprise IoT market and analyses key supplier market strategy issues including:

- How is the enterprise IoT market developing in terms of growth and outlook, and which strategies can suppliers adopt to optimize their positioning within a changing competitive reality?
- What are the main drivers of and opportunities for CSPs and suppliers in enterprise IoT, and the challenges faced by enterprises in adopting IoT solutions or enhancing current ones?
- What are enterprises asking for in terms of connectivity and non-connectivity services?
- What strategic and tactical actions can suppliers take to build sustainable competitive advantage in a changing market environment?
- What are the best methods of providing ongoing value to the enterprise as their needs change over time?

Please contact MEF or TecFutures to discuss any aspect of this report.

Six Strategic Actions to Secure Your Future in Enterprise IoT

1

Fully understand market dynamics

Forecasts provide a direction of travel. Previous forecasts may not allow for recent rapid market consolidation. We are at 13bn IoT devices with much scope for further growth.

2

Position for growth

Being ready for the next wave of growth is key and suppliers should ensure they have their marketing channels in place to address these. Different suppliers are expecting different growth rates depending on their market positioning.

3

Choose where to compete

The enterprise IoT market is made up of many vertical and application sectors. Some of these are more highly developed than others. Choosing your markets carefully is key built on understanding market opportunity and risk.

4

Don't be drawn into a price war

In a highly competitive growth market, players are keen to gain market share. Price is one of the tools to attract more customers. It is a blunt tool and suppliers need to ensure that the incremental revenue for new connections is greater than the marginal cost of service provision.

5

Add value beyond connectivity

Beyond simple connectivity, enterprises require a wide range of supporting services which include security, analytics, management platforms, real time billing and global connectivity.

6

Refine your strategic approach

Two main strategies are emerging with suppliers adopting a value-centric or volume hyperscale approach, if they are not forced to exit the market. Suppliers should select a strategy depending on market reach and differentiation for ongoing success.

Enterprise IoT Market Overview

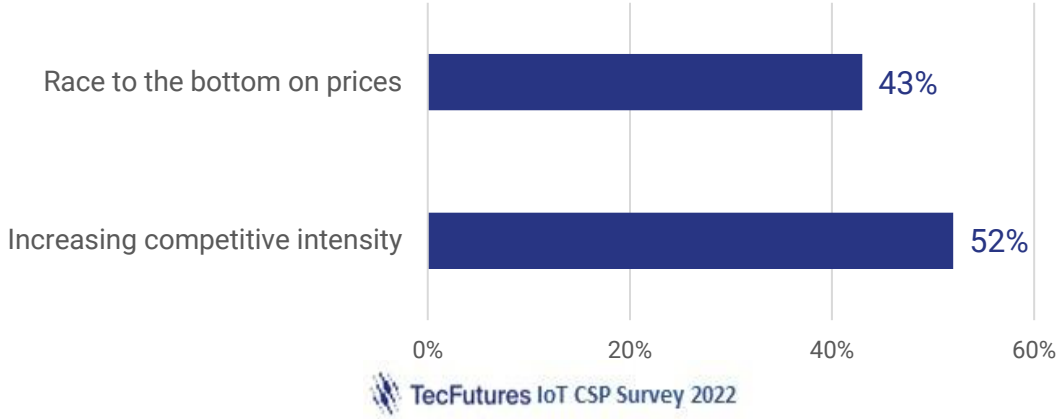
Digging deeper into market drivers

If we take a snapshot of the enterprise IoT market at the end of 2022, we can make a few observations. There were around 13bn total IoT devices / sensors in play and while enterprise IoT accounted for a higher proportion of earlier connections, consumer IoT connections are accounting for an increasing number.

Estimates are that the split is around 80% consumer and 20% enterprise. These high-level figures do not necessarily reveal the true dynamics of what is really happening, particularly in the enterprise IoT market which spans a vast array of requirements from simple M2M type activity to complex and highly engineered solutions for larger enterprises. In fact, the top ten enterprise applications account for 70% of the market by volume.

At a retail connectivity revenue level, the general consensus is that it is a 50:50 split between MNOs and MVNOs, Once again, this topline figure does not account for the diversity and structure of revenue streams. These are dependent on the use case of individual enterprises depending on the size, service requirements geographical scope and technologies they use.

GREATEST CHALLENGES FACING IOT CSPS



As enterprise IoT matures, applications become more mainstream and barriers to entry reduce. More players can enter the market, driving up competitive pressure as well as the market opportunity. IoT CSPs fear a race to the bottom on prices in an increasingly competitive market. There are a significant number of connectivity providers (MNOs and MVNOs) active at present even though there are clear moves towards consolidation. Other value chain players will include connectivity as part of their offering posing further threats.

> Size is important. It is a different matter if you're a small MVNO or trying to break into the market and all you've got really is price as a tool and you can't compete with the larger players. **Vodafone IoT**

Market Outlook

Will it be long-term double-digit growth?

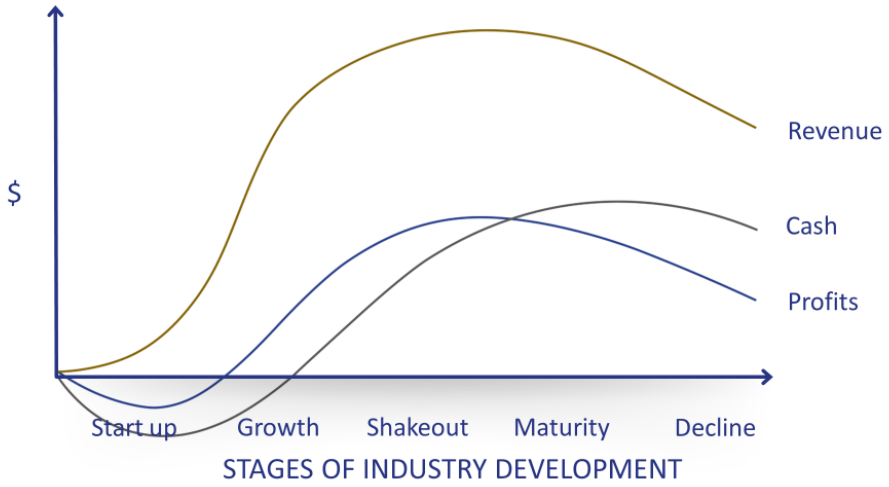
If we look at analyst forecasts for IoT market growth, we often see a hockey stick with seemingly no end to growth. Ten-year forecasts point to 30bn IoT devices with around 30% being new connections

The fact remains that all technology markets pass through various phases of development, and as a market matures growth begins to flatten. IoT is no exception to these market dynamics.

Forecasts point to a CAGR of around 10% over the next ten years. We need to consider the stage of the market on the industry development curve and what are the implications for IoT suppliers?

We could assume that IoT is heading towards the latter stage of its growth phase and high growth rates will start to reduce over the next few years to reflect more mature market characteristics. This naturally has implications for IoT suppliers in terms of the strategies they adopt as the market dynamics shift.

Across the IoT market as a whole, growth appears to be slowing as the market matures.



Based on the recent TecFutures survey, CSPs expect to see an average growth of 6.5% in enterprise IoT connections by volume in the next 12 to 24 months. That is not to say that it is the same for all players, MNOs are more optimistic than MVNOs and CSPs with large bases are highly confident about market potential.

> We are seeing no slowdown in double digit growth, we continue to see 20% to 25% growth in connections but more importantly, we are seeing a doubling in data consumption. **Vodafone IoT**

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Not all Enterprise Verticals are Equal

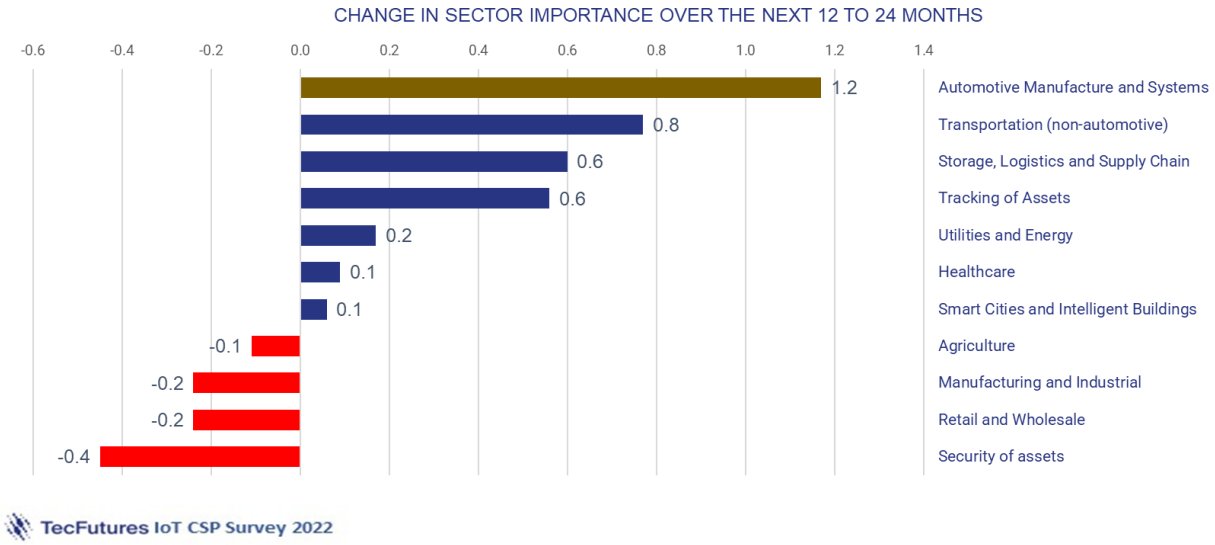
Different sectors need a targeted focus

Clearly, it is not all about absolute growth in the IoT market. Some verticals are growing faster than others and CSPs have a clear view of their current importance – in terms of size and revenue - and future importance to them. The chart here highlights the areas of greatest competitive intensity in the next 12 to 24 months.

Enterprises have very distinct needs in terms of whether they operate in a single country, regionally or globally. The applications are therefore also different and require different connectivity technologies – usually a blended mix. Also relevant is whether they operate on a single site or are geographically very mobile, and the level of latency required.

There are also differing levels of support required depending on enterprise knowledge and sophistication. Some enterprises are looking for an off-the-shelf solution and others want a core offering that they can engineer themselves. CSPs need to meet these needs and offer solutions accordingly, apply the appropriate pricing models and build the most appropriate and mutually beneficial commercial relationships.

What is clear is that the demand curve for IoT is made up of many verticals, each developing and at different pace with its own characteristics.



We have a horizontal suite of connectivity agreements serving both low and high data applications in key sectors such as Utilities, transport, retail and industrial … the conversations that we get into are around managing devices and security at scale while considering how to manage high-capacity data use cases. **Pelion**

Lots of hype at present but the market is still a little bit too fragmented. The potential so far hasn't really been completely exploited. **Pod Group**

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Moving to a New Competitive Reality

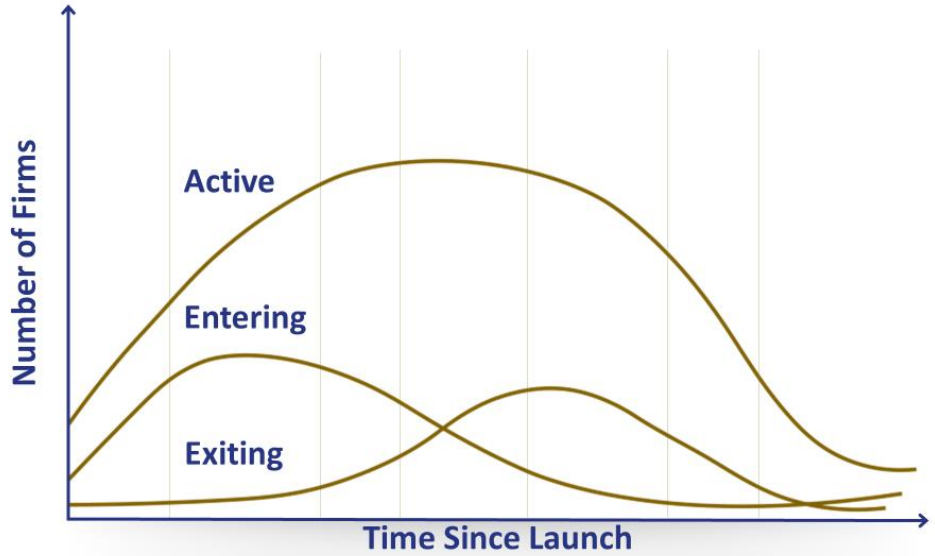
Changing market and competitive dynamics

We are seeing a number of dynamics coming into play in the enterprise IoT market including pressure on prices, increased competition, the need to offer more than connectivity and meeting diverse enterprise requirements.

The chart here highlights what typically happens in a market as it matures over time. New entrants are initially drawn in by the attraction of revenues and profits. The market subsequently matures, fewer firms enter and over time, suppliers either leave the market or there is consolidation into fewer larger players.

We can see these dynamics starting to play out in IoT particularly with downward price pressure. Larger players are acquiring smaller players and players who no longer have the appetite to compete or do not have the cost structure to operate effectively may leave the market and seek to dispose of their assets to other players.

It may well be the case that we will start to enter a more stable phase of market development in the next few years.



The customer wants to deal with bigger companies because the smaller ones are going to go out of business. Short term actions are all being driven by the same thing which is the collapse of the underlying financial model. Ultimately, we believe the large operators will win. They will only win if they adopt an agnostic, abstracted, architectural approach, which enables them to truly steer towards global deals. **Eseye**

Competitive Strategies for Suppliers

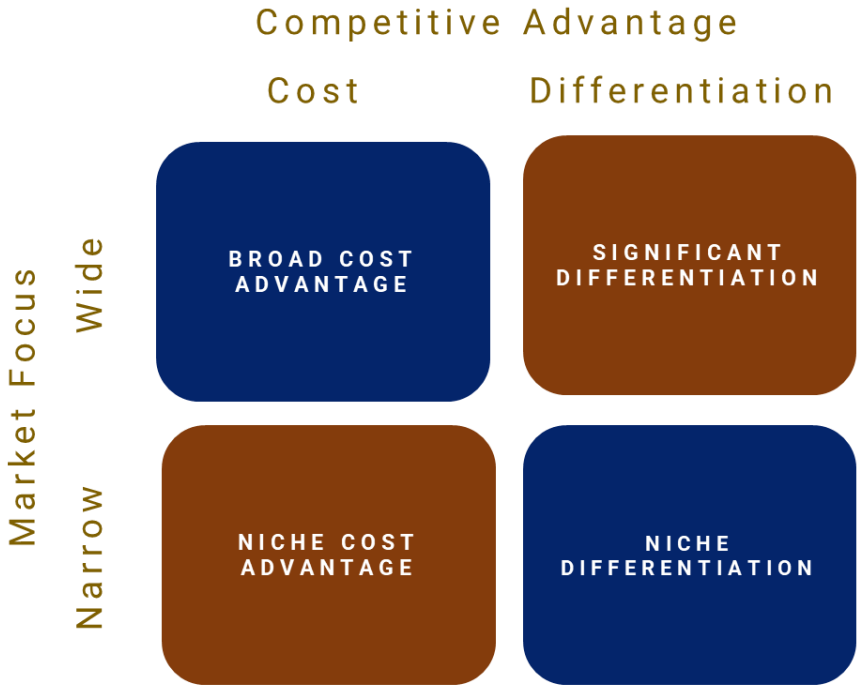
Thrive, survive or dive?

Where do these competitive dynamics leave suppliers in terms of their overall strategy for addressing a changing enterprise IoT market?

Simple market models – and our research - tell us that a supplier cannot be all things to a potential customer. The market is evolving, and two main strategies are emerging. The first is to build a volume business and the second is to focus on differentiation as a competitive advantage. Of course, the third option is to exit.

We can unpick these strategies further depending on how a supplier is addressing the market as in the graphic on the right. This looks at whether a supplier has a narrow or wide market focus and whether they derive competitive advantage from cost or differentiation.

Hyper-scaling is a clear competitive trend in enterprise IoT. For example, Vodafone IoT manages 170m connections currently with clear sector differentiation. If a supplier is to compete solely on cost, then they need to ensure that the incremental revenue is greater than the marginal cost of a connection.



Sources: TecFutures research

> There are three strategies emerging. So, one of those is to hyper scale, so you get much, much, much bigger. The second strategy is that you specialize. And the third strategy is that you leave the market. **Vodafone IoT**

> ...the market is bifurcating into volume and value. **Eseye**

Six Tactical Actions to Build Successful Enterprise IoT Implementations

1

The business case is key

IoT is a business decision and not a technology one and using technology to deliver business advantage is a key driver.

2

Don't underestimate an IoT project

IoT projects are far reaching and can be mission critical. An enterprise needs to understand the issues around deployment before it is launched. Many projects 'fail' before launch – help enterprises to avoid failure.

3

Anticipate multiple challenges along the way

IoT applications are varied and enterprises face particular challenges around areas such as technology choices, global connectivity, security, devices, and eSIM.

4

Offer a suite of non-connectivity solutions

Beyond simple connectivity, enterprises require a wide range of supporting services which include management platforms, real time billing and global connectivity.

5

Be flexible and supportive

IoT can be a significant undertaking for an enterprise and impacts their legacy systems and processes. Suppliers can mitigate a high failure rate through education and support. Enterprises welcome this along with flexibility from their suppliers.

6

Delivering value for the enterprise

IoT applications are there to deliver real business advantage. Help enterprises to unleash this value through technologies and solutions.

Start with the Business Case and Drivers

Match technology solutions to enterprise goals

Understanding why an enterprise wants to adopt an IoT solution or enhance its current implementation is a critical first step and these drivers are vertical specific.

Adopting IoT is a business decision, not a technical one and managing operational risk is a recurrent theme. IoT is moving from being a technology to a business asset. It's true that there is significant involvement with technical departments but ultimately it is business management that underwrites the project.

The enterprise business case will determine where the funds will come from to support the IoT deployment. Suppliers should be tuned into this dialogue.

Understand the enterprise adoption drivers in more depth. TecFutures and MEF research points to the most important drivers for enterprises being the desire to create business advantage. This supports the premise that IoT is a business decision and not a technology project.

1. Providing a better customer experience
2. Improving workflow
3. Achieving digital transformation
4. Pressure from competitors
5. Allowing better real time data, information flows and intelligence
6. Saving costs

Sources: TecFutures research

IoT has matured from being a technology to an operational asset on which companies rely. **Vodafone IoT**

We have customers using IoT as a transformational technology to save costs or become more efficient. **Pelion**

Start with the business use case. Ask where is the money to fund this project and don't ask a product engineer to run with an IoT project. **Eseye**

Support Enterprises with their Challenges / 1

Don’t underestimate IoT projects

Enterprises face a raft of challenges when deploying and operating their IoT solutions. A typical IoT project is of two years duration and a large number of projects fail due to early operational and technical issues.

Many organizations do not have the necessary expertise and technical understanding of IoT. They often underestimate the impact on legacy systems and processes and do not always get the necessary internal buy-in and co-operation.

Although a low price may be an attraction, we are finding that cost comes lower down the hierarchy of enterprise considerations. Of course, that’s not to say there is a blank cheque book in the business for IoT projects.

Eseye offers an IoT Readiness Index to enterprises to help them focus their efforts on their IoT implementation journey.

1. Lack of expertise and technical understanding
2. Needing to integrate multiple technologies
3. Security concerns
4. Impact on existing processes
5. Finding the right suppliers
6. Internal issues – buy in, cooperation

Sources: TecFutures research

> We don't group customers by small, medium and large. We segment them as to whether they are OEMs or asset operators. An OEM for us is somebody that puts a SIM card into everything they make. And then you have asset operators who put a SIM card into everything they own. **Vodafone IoT**

> We want to steer away the discussion from the pricing as much as we can because this is not our forte and focus on technical aspects and listen to the customer. **ZARIOT**

Support Enterprises with their Challenges / 2

Choice of connectivity technologies

Connectivity is a key aspect of an IoT solution. Simply put, without connectivity it won't work. Enterprises face a choice of cellular, non-cellular and satellite solutions. We are now seeing 2G and 3G sunsets and existing enterprises M2M users will need to use alternative technologies for their devices.

Suppliers have a key role to play in guiding enterprises in their technology choices and finding the solution that best fits their needs based on required coverage, latency and nature of the application. 5G is also on the horizon which offers new and attractive features to the enterprise... along with much hype.

There is a lot of hype around... people read things and they need a bit of guidance and need to go to somebody with a lot of experience. There are a lot of players that can offer very cheap pricing, but do they necessarily have the experience to guide an enterprise towards a full solution. **Pod Group**

Having a suite of connectivity technologies allows us to pick and choose and navigate to the right offer at the right price, the right nuances, for the right use cases and the right verticals. **Pelion**

Global Connectivity

The nature of some enterprise deployment means that they need connectivity on a global basis, and this is not always a straightforward requirement.

National MNOs may find it hard to compete in this market and regional MNOs may have issues with backhauling traffic if they have no local points of presence. MVNOs have developed their IoT businesses around leveraging international roaming agreements and a suitable regulatory regime. There are also issues around permanent roaming in some jurisdictions to overcome. Global connectivity should not be an issue for an enterprise providing that it has the right supplier partners in place.

We built an architecture that's based not only on the concept of federated localization, ... , but also one which is based on a global MPLS network with local breakout or a series of datacenters. So that you can actually say to a customer, you can build a single product SKU. **Eseye**

One of the issues that we see for enterprises is, the difficulty to deal with the different providers in different markets and different geographies particularly on the connectivity side. **Pod Group**

Support Enterprises with their Challenges / 3

Security

Without robust end-to-end IoT security, the enterprise is extremely vulnerable and yet we see that it is not high up the list of enterprise requirements. The need for security does vary by industry vertical or use case and becomes even more important as IoT applications proliferate.

There are multiple points in an IoT deployment where vulnerabilities are high, and enterprises need to recognize and act upon these. Suppliers need to urgently educate the enterprise on the critical importance of security, both to existing users and those looking to adopt IoT solutions.

Security depends on if you have many IoTs out there. Multi-country-based applications need a proper risk analysis. Without this, the damage is too high and too costly to fix. **ZARIOT**

Enterprises tend to leave the security aspect until last. One of the pieces of advice that we would give to the enterprise is to build that security in right from the start into their solution and obviously work with the supplier that can provide it. **Pod Group**

Improve security or be more innovative around security for some niche use case on blockchain, SIM card or payment solutions. **ZARIOT**

Devices and eSIM

Devices can often represent a weak point in enterprise IoT deployment and can be the cause of project failure. This can be due to a lack of understanding of how devices need to operate in the field and enterprises often turn to the suppliers for help.

eSIM is forging ahead as the preferred connection method for IoT network, sometimes to the detriment of established MNOs who no longer have the proprietary lock of a physical SIM when an eSIM can be updated over the air.

Around 80% of IoT projects may fail before launch (due to the device). **Eseye**

Everybody needs to be looking at eSIM as a strategy moving forward for future proofing. It's going to save a lot of money and make people's lives a lot easier and allow people to scale a lot better as well. **Pod Group**

Adding Value Beyond Connectivity

Enterprises want more than connectivity

In a highly competitive IoT market, suppliers need to differentiate themselves. Providing connectivity is, of course, critical but a pure connectivity play alone is no longer a guarantee of success. Suppliers are now offering a range of value-added services to their core offerings which increases customer appeal and increases 'stickiness'.

Enterprise requirements are wide and varied and the TecFutures CSP survey points to a broad range of needs including sector-based solutions for key verticals. Off-the-shelf solutions (particularly important with newer customers) need to highlight efficient device onboarding (ideally zero touch) and robust security.

Enterprises can demand remote management, and analytics, to support real time business decisions. Data management and ownership regulations are important, as are over-the-air upgrades and billing and management expertise. And sustainability is emerging as an interesting driver for enterprise IoT.

Finally, leveraging adjacent technologies is important, such as cloud, edge processing or the deployment of digital twins.

4.7	Sector-based solutions for key verticals	4.1	Remote management of devices
4.6	Efficient onboarding of devices	4.1	Analytics to capture data and make real-time decisions
4.3	End-to-end security	4.0	Adherence to data management and ownership regulations
4.2	Off the shelf solutions for SMEs with plug and play	3.9	Ability to upgrade over-the-air. Sustainability. And effective billing and management

Sources: TecFutures CSP survey. Scores out of 5 (5 = very important)

> We see a lot of complexity making enterprises quite nervous about moving forward with global deployments. One issue is the ability to centralize all of the management of different technologies, different providers in different countries while also bringing the security and billing sides. Offer a centralized solution which is flexible enough to them and tailor to the Enterprise itself and to their specific needs. The enterprise value this because the complexity of the whole ecosystem is still very challenging for them. **Pod Group**

Summary of Supplier Strategic Actions

01

DEFINE YOUR STRATEGY

At a strategic level, suppliers can choose a volume or value strategy. But this also involves analyzing and selecting markets where you understand the commercial risks.

02

POSITION FOR GROWTH

Being aware of market dynamics both by sector and by demand for services will allow suppliers to be ready take maximum advantage of market growth.

03

AVOID LEADING ON PRICE

Leading on price sends the wrong message to enterprises who are looking for IoT to provide business advantage. Leading on price suggests minimum added value.

04

ADD VALUE

Enterprises want to work with partners who can go beyond connectivity and add high impact commercial and business value.

Summary of Supplier Tactical Actions

01

LEAD ON THE BENEFITS TO THE BUSINESS

Understand the drivers of enterprise adoption of IoT and position your offering along these lines. IoT is an operational business solution and not a technology project.

02

UNRAVEL THE COMPLEXITY

Enterprises often underestimate that IoT is a large and complex undertaking that has an impact across the business. Support them in their IoT endeavours across design, build, implementation and ongoing operation.

03

DETERMINE YOUR VALUE PROPOSTION

Enterprises have a broad range of needs beyond connectivity and connectivity technologies. Enterprises want to work with partners who can add high impact commercial and business value.

04

BE FLEXIBLE

Enterprises are looking for trusted suppliers for a long-term relationship. Their needs change over time and a flexible approach from suppliers works well in cementing and enhancing the business relationship.

What Questions do Suppliers need to answer?

1. Which markets should you focus on?

Suppliers need to gather sufficient insight to make strategic and tactical choices about the markets they want to be active in. This means understanding the market trends, market size, and competitive intensity to fully understand the commercial risks and opportunities.

2. What service portfolio should you offer?

Suppliers have to decide on the portfolio of services they plan to offer in their chosen markets. Some will be mandatory services, but others can be designed as differentiating services. However, it is important to understand the demand for different potential services.

3. How do you communicate your value proposition?

Suppliers will need to create a program of marketing communications to convey market position and differentiating value to their target markets. The exact choice of communication will depend on supplier marketing objectives as well as market receptivity to specific campaigns.

4. How do differentiate in competitive markets?

Suppliers need to be fully aware of competitor positioning, strengths and weaknesses, as well as market 'white space'. This will development of differentiated services supported by the correct communications, all of which they must ensure matches market needs.

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ABOUT MEF

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