



The Future Power System Architecture (FPSA) Programme: Perspectives for Vendors & Supply Chain

Including: Vendors new to the Supply Chain including grid edge products, data and communications systems and service providers, and white goods manufacturers

The power system in Britain is undergoing radical transformation. The Future Power System Architecture (FPSA) programme is taking a holistic and whole-system approach to the evolution of its architecture - considering technical, governance, commercial and societal factors. FPSA is a multi-stakeholder collaboration led by the Institution of Engineering and Technology and the Energy Systems Catapult, sponsored by Innovate UK. This note considers new vendors joining the supply chain to provide products, services and solutions into the power sector. Many businesses are targeted at the utility sector and are familiar with it, while others have a focus 'beyond the meter' and may be oblivious to the influence they have on the local or national power system.

Drivers:

The drivers for this community are varied from delighting your customer, running a viable business, expanding into new sectors, differentiating from your competitors, standing out from the crowd, creating new value propositions, disrupting the current market incumbents to delivering societal benefit without profit. The spectrum of new stakeholders who can now play a role in the power sector is large and expanding.

Opportunities and consequences:

The opportunities to deliver new and exciting products, services and solutions into the power sector has never been so great. The threats that these new stakeholders could create for stability, resilience and reliability are also immense if not considered carefully.

Many new vendors delivering products, services and solutions on the customer side of the meter (e.g. the non-regulated side) may be oblivious to the role they are actually playing in the whole power system. New apps that coordinate millions of devices that may switch load on or off and are unpredictable or unobservable until the point of implementation could create major problems for the power system balance. These are already being deployed, such

as electric vehicle charging or ground/air heat source pumps, controlled by apps, etc. and may be synchronised by changes in price between half-hour settlement periods.

The challenge is to provide a vibrant new market with exciting choices for customers to enhance their lifestyle, business performance or environmental impact on the one hand, while delivering a secure, safe and value based solution on the other. The two are not mutually exclusive.

Vendors understand the current and future needs of customers and design new and exciting products, services and solutions to deliver the one or more of the desired benefits. Today's barriers have to be overcome and new functionality released if the desired customer benefits are to become a reality.

How can the FPSA functions help?

FPSA 2 has identified thirty-five new functions that will be needed along with a new process, known as Enabling Frameworks, that is agile, inclusive and timely in enabling their delivery.

From a new vendor's perspective, the challenges of understanding the market structure, the commercial rules, the acceptable level of technical products, services and solutions and their main customer base norms, behaviours and procurement processes may be daunting. They may feel excluded from technical code decisions (or may not know they exist) or be unable to interface to the power grid because of a lack of known functionality – e.g. Community Energy vendors and the role this could play in Demand Side Response. Many of the functions defined in FPSA2 will liberate these types of solution, while the Enabling Frameworks is trying to provide an inclusive, agile and timely process to allow new vendors to enter the market place.

The vendor perspective: what does this mean for me?

Vendors of all persuasions hardware, software, data, communications, applications, integrators, advisors (the list is extensive), have a huge role to play in the next decade in the power sector transformation. Often the challenge is just articulated as a technology opportunity for example, wind, solar, storage, etc., but the reality is the need for all of the supporting infrastructure and the coordination of these technologies, and others, to be at the heart of the transformation. If these new opportunities are to be delivered seamlessly, reliably and backed with top quality service, the wider power system must be equipped for the job - in other words, provided with the necessary new functions identified as key to a smart energy future.

Call to action:

For this future to become a reality, many parties have to step up and engage with change. This includes existing and new parties, it requires active participation of those who make policy and regulations, and it spans technical, commercial and governance challenges. Vendors are the engine room of this delivery, the ability for them to be able to easily engage, deliver and feel part of the whole-system solution will be imperative for the success of our future power system.

For more information and to get involved please visit: es.catapult.org.uk/fpsa and www.theiet.org/fpsa

