

## A tailored approach for data structuring

The growing need to differentiate in the dynamics of the energy market pushes energy service providers to become data driven organizations. As data-driven strategies take hold, in reality we see that big data, data lakes and data analytics do not automatically deliver on their potential value. The common pitfall is starting with the data and simply ask what it can do for you. We share some insights and considerations that can help you find value in your (data analytical) investments.

### One size does not fit all

Have you ever tried to get into a suit that says “one size fits all”? Then you probably know that it never really fits. It is either too big and slumps down from your shoulders, or too narrow so you can hardly breathe. In both cases: probably best to wear something else. The same could be said for an operational data environment and an analytical one.

Combining both purposes in one environment enforces opposing needs and requirements into one system, resulting in excessive costs and/or concessions on functionality or prerequisites. The different characteristics ask for a tailored approach for each:

Operational environment	Analytical environment
Serves core business processes	Serves business intelligence: create insights for process optimization, or identification new opportunities
Supports fixed procedures, processes and operators	Supports custom analysis, trial (and error), creativity
Important role for compliance & market regulation	Interaction with other systems and applications
Data should be accountable (financial settlement)	Considering (statistically) relevant market data
Time critical: real time data, very high uptime, availability guarantee	Ad hoc data processing (not real time required, though marked with timestamps), no/low uptime requirements
Operational excellence (low cost, fully automated)	Flexibility of analyses prevails

Table 1. Differing characteristics of operational and analytical environments

It seems evident that the different purposes of each environment affect business decisions on:

- software update procedures (because of a different risk profile)
- availability / failover / redundancy requirements
- security requirements
- compliance / regulatory requirements
- change / flexibility procedures
- data input and data output
- user requirements

Gathering data in an analytical environment is not the difficult part. The difficult part is finding value in the tremendous amount of all types of data, ensuring the results of your analyses are validated and even more important, well translated into your operations. How well is your analytical environment helping people across the organization? Does your analytical team find truly valuable results? Are they derived and validated with knowledge of the energy market and its processes? How well does your analytical team collaborate with operations? New insights should lead to operational follow up. And while some might be able to navigate through the data today, that institutional knowledge will deteriorate as organizations grow, when employees move on to other projects or even move to another employer while your data lake keeps growing. Fundamental organizational decisions need to be made to ensure the value of data analytics.

## Exploring the connected system approach

Operational systems contain accountable data with strictly defined operational processes and procedures. This data, as it is of high quality (validated and recent), is very interesting for analytical purposes. So the analytical environment should be connected to this data -but remain separate- to not affect operations. The operations environment can unlock the operational data through an API (pull mechanism) or dump the relevant data (push mechanism) into the analytics environment.

In the analytical environment new processes, strategies and optimization models are developed and tested. When these are superior to the existing ones in the operations environment, they can be implemented as new (standard) procedures in the operational system. The whole process from analytics to operations requires extensive domain knowledge of the energy market.

A visual representation of the connected systems approach:

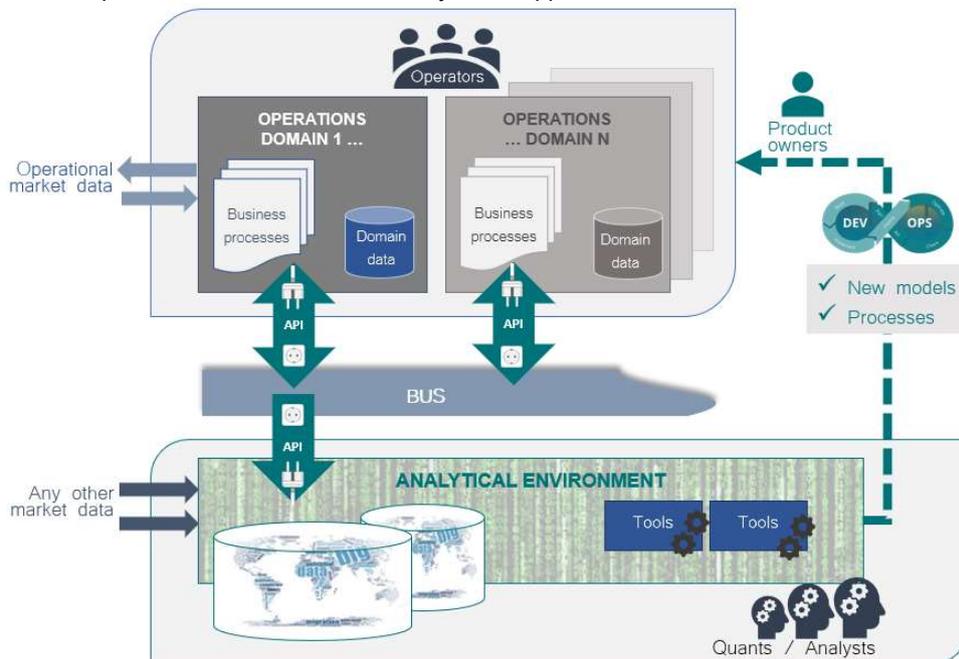


Figure 1. Connected systems approach

With this approach you do not have to compromise on the original incentives of creating a data lake.

## Exploring the connected system approach

Analytical environments can become a valuable business asset that delivers the kind of information your business users need to accelerate decision making, discover better business processes, and inspire ground-breaking discoveries.

It may be clear that implementing an analytical environment can have significant implications and requires a solid and robust architecture to make sure the data is working for you and not the other way around.

Energy21 can guide you with targeted efforts to implement an analytical environment:

- by challenging and/or setting up your data strategy
- by supporting your analytics team with domain knowledge (e.g. use cases)
- by supporting your functional administrator(s) or guiding you with a complete DevOps team to update and maintain the operations environment
- by setting up API/Interfaces that expose data from your EBASE operations to the analytical environment

We would like to invite you to explore our connected systems scenario for your organization.

## Contact us

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