C-ARM: A central platform for gas and electricity markets in The Netherlands

CGI

Since 2001, Energie Data Services Nederland (EDSN) and CGI have worked together on innovative solutions to support liberalization of the Dutch energy market. The most recent step in this partnership has been the introduction of our C-ARM (Central Allocation, Reconciliation and Meter data) solution.

C-ARM processes market meter data for all seven Dutch regional network operators, offering the required flexibility to continue the development of transaction processes.

A new market reality

The Dutch energy market is changing rapidly. The goal is to move toward decentralized, sustainable energy production. One way to realize this goal is by increasing taxes on the use of fossil energy. Overall though, it is a complex process, as it forces us to change how we use energy and how we manage increased electricity demand for non-traditional domestic purposes such as electric vehicles (EVs), heat pumps, etc.

Combined with the unpredictability of sun and wind energy production, it underscores the need to align the usage of electricity with availability. The traditional approach of allocating energy based on pre-defined patterns of consumption is no longer feasible. This new reality calls for innovation.

The EDSN ecosystem

EDSN develops and operates the Dutch energy data hub on behalf of the transmission and distribution system operators and offers overarching services for the liberalized energy market. EDSN works in close cooperation with regional network operators, TenneT and GTS on central market facilitation for the energy sector. As part of this ecosystem, CGI's experts are working with them on the development of a reliable and innovative IT infrastructure to support the energy transition and sustainability.

Key features

C-ARM offers:

- One solution for all DSOs, to manage allocation, reconciliation and meter data processes in a uniform way
- Meter data processing for more than 15 million metering points, with a peak of over 4 million meter data messages per day
- Daily volume allocation using 15-minute resolution (electricity) and hourly resolution (gas) for all connections
- Monthly settlement of allocation differences
- Proven Hansen GENERIS solution

EDSN

Our successful collaboration with EDSN started over two decades ago. Key milestones in our journey together include:

- **In 2001**, at the start of the liberalization of the energy market, we delivered the first central data hub. This data platform enables consumers to change suppliers and facilitates easy exchange of market meter data.
- **In 2011**, we added a central connection register (C-AR) to handle all retail processes, such as consumers changing their address or supplier. C-AR holds data of all 15 million Dutch electricity and gas meter points.
- **In 2013,** with the introduction of the supplier-based market model, we launched a solution to exchange market meter data and other market information, and to centrally settle and communicate the network costs per household.
- **In 2019**, we successfully delivered the C-ARM solution that processes all market meter data and handles daily and monthly allocation of electricity and gas usage of all market parties.
- **In October 2020**, the last of the regional network operators transitioned to C-ARM. With this, 100% of network connections in The Netherlands are serviced out of one uniform system.

Close cooperation in a complex environment

The C-ARM solution has been designed, developed and tested in close cooperation with EDSN and the Dutch network operators. The platform covers a very complex environment with many stakeholders, interests and preferences. However, they all share one common goal: to use a single solution to handle market processes in a uniform manner. Multiple agile teams with experts from EDSN, network operators, software and services provider Hansen and CGI worked together to design, develop and test new functionality. This is a unique approach in the energy sector and a blueprint for a collaborative new way of working in the future.

Co-innovating to shape the energy future

The centralization of C-ARM is an important milestone for the Dutch energy market and another step toward sustainability. However, there's more to be done. With the increase in renewables, historical, estimated electricity usage patterns will increasingly deviate from actual usage. This calls for a major shift in allocation processes for electricity in the near future. With over five million households with smart meters, the interval of these meters plays a central role in enabling better allocation and creating new business models.

At CGI, we look forward to continuing our close collaboration with EDSN, the network operators and Hansen to shape the energy system of the future.

"The seven regional network operators, EDSN and CGI had never before worked together so intensively. We succeeded by being alert, involved, constructive and straightforward. With the C-ARM program, we have written history by shaping the future together."

Vijai Hoeblal
Managing Director EDSN

About CGI

Insights you can act on

Founded in 1976, CGI is among the largest IT and business consulting services firms in the world.

We are insights-driven and outcomes-based to help accelerate returns on your investments. Across 21 industry sectors in 400 locations worldwide, our 76,000 professionals provide comprehensive, scalable and sustainable IT and business consulting services that are informed globally and delivered locally.

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