

CASE STUDY

Vodafone Group

Getting new Insights
from Customers'
Digital TV Experience



"Understanding customer usage and behaviour provides a unique knowledge which can be applied to develop new services and improve the customer experience. This project gave us an edge over our competitors and is today a pillar in Vodafone's TV strategy."

Nuno Sanches


Group Head of Fixed Product Development

"By having a common TV platform, available to the different OpCos, this solution allowed the establishment of a comparison baseline, covering the different local operators. Furthermore, the standardization of the on-boarding process reduces the OpCo's setup and lead time to take full advantage and insights of the overall solution."

Pedro Duarte

Head of TV Engineering in Group Network Engineering and Delivery

CELFOCUS

 **vodafone**

How the TV experience is changing



How many customers are using the TV platform, and with which kind of device?

Which are the most popular content providers, programs/events?

What is the compliance level with the content providers reporting requirements?

Remember the good old days when the entire family would get together around a huge black box to watch their favourite shows? Well, those days are long gone, and today's TV experience has significantly changed.

Driven by an astonishing technological development, customers today watch TV through a myriad of devices, demanding multiscreen viewing, more content flexibility and personalized experiences. **Linear TV is dead:** we can binge on an entire season of our favourite TV show during a weekend or record a specific episode because we went out for dinner.

Another significant change is the exponential content growth and its impact. The volume of content available continues to grow, forcing TV providers to start using sophisticated recommendation and prediction engines to power their user experience.

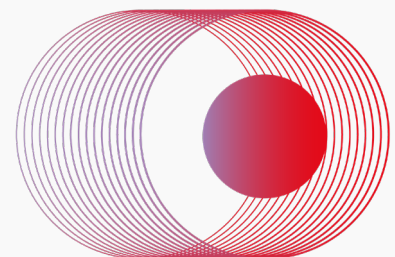
The advent of cable and IPTV pushed the TV business closer to the telecom domain, opening new opportunities and business challenges. In fact, with the decrease of traditional voice services, TV has been critical in many fixed-mobile convergent projects, as a potential source of revenue for both wireline operators and quad-play players.

The combination of a more differentiated video consumption, with more options, using different devices creates a new layer of complexity but also represents an extraordinary opportunity for CSPs.

The data generated by this new TV consumption patterns represent a unique asset, only available to CSPs and their partners. The insights resulting from analysing usage and behavioural data allows CSPs to truly understand the customer experience and which content works better, for which segment. This asset is a differentiator that can't be replicated by competitors.

Project in a Nutshell

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- **Over 100 KPIs** pre-calculated and available for analysis;
 - **10 OpCos already Live!**;
 - **More than 2 million** registered households;
 - **Max capacity of 2 TB** daily ingested data on the Analytics platform;
 - **Project solutions:** AWS, Elastic Stack and Cloudera;
 - **Project Technologies:** Digital TV, Analytics, Cognitive, Data-as-aService and Cloud Hosting.

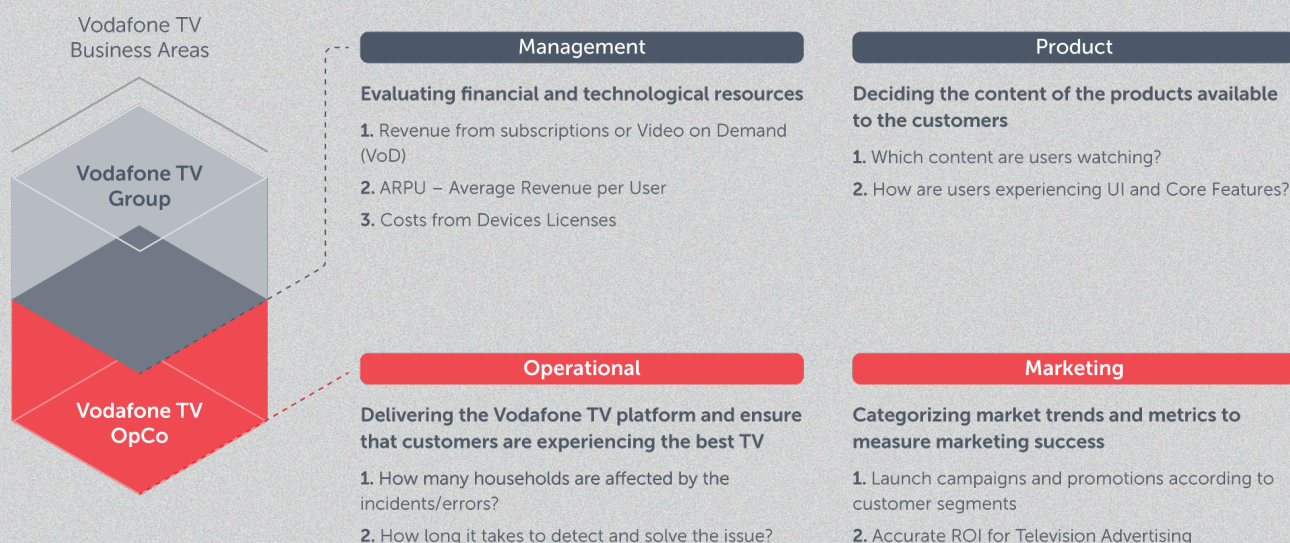


The Challenge

TV has become a core offer for CSPs across the globe. With the commoditization of voice services, TV represents an important anchor in a quad offer.

Aware of the potential of TV as a strong revenue stream and of the fact that many of its OpCos have already launched a TV offering and are leaders in their countries, Vodafone Group wanted to take a step further and provide unique insights to the different OpCos, leveraging technical and behavioural data across geographies and deliver meaningful knowledge on Vodafone TV to its stakeholders: management, marketing, operations and IT.

These insights could then be used to enhance customer experience and plan the platform expansion and ultimately, measure the quality of service. Additionally, Vodafone needed to comply with content providers' reporting requirements, making the need for a centralised analytics tool critical in the VTV ecosystem.



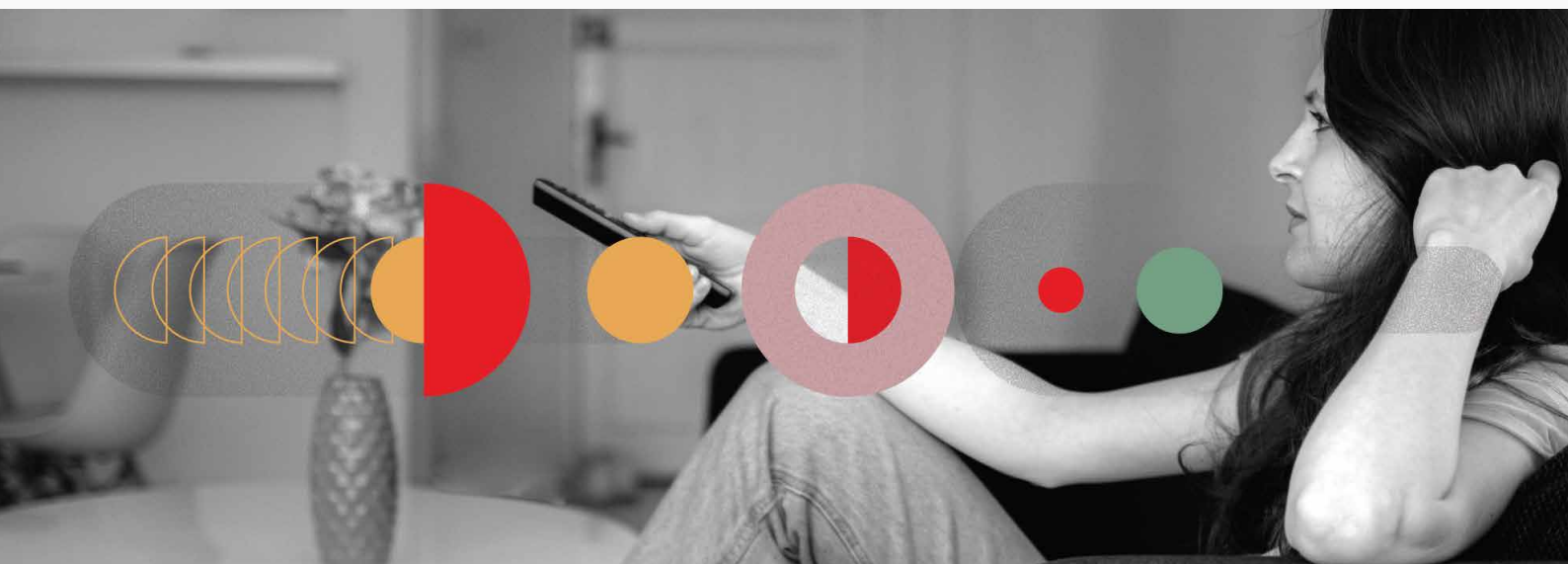
The Solution

The Vodafone TV Analytics platform is aimed at providing advanced reporting both to content providers and OpCos, flexible enough to cater to the needs of different stakeholders and implementations, and across diverse geographies. The existence of many data sources and increasing OpCos, demands a centralized vision over every OpCo, thus reducing complexity.

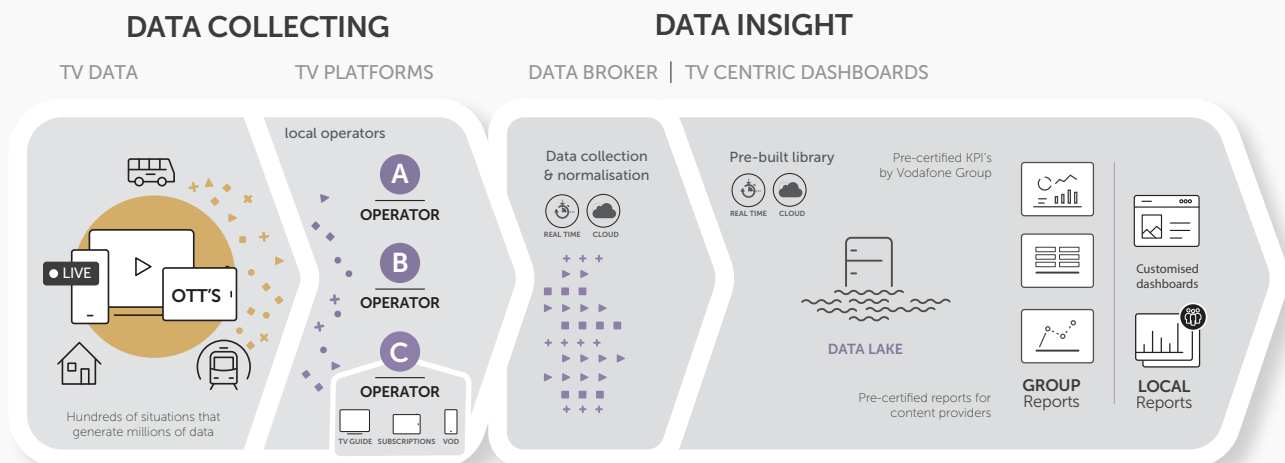
This cloud-based TV centric solution provides pre-built and custom dashboards and is pre-integrated with the Group's TV platform. Therefore, when a new OpCo is onboarded onto the platform, a rich plethora of reports are available and ready to use.

After being collected, filtered, normalized and pre-calculated, using AWS technology, technical and behavioural data is ready to be consumed internally by the operator's different areas and externally by partners through a set of well-established interfaces. The main data domains available include data consumption, content providers, usage and finally, product engagement.

Because each OpCo has specific needs, a level of customization was necessary to ensure the flexibility for specific KPIs and report needs.



Below, a high-level representation of the Vodafone TV Analytics platform architecture.



Types of data generated from Set-top-boxes (STBs) and Mobile devices:

- BEHAVIOUR DATA
- ✕ VIDEO QUALITY DATA
- ✓ TECHNICAL DATA
- ▶ CONSUMPTION DATA

Benefits

The Vodafone Group and the different OpCos now have a solution that enables them to comply with content providers' reporting requirements in a flexible, reliable and accurate manner.

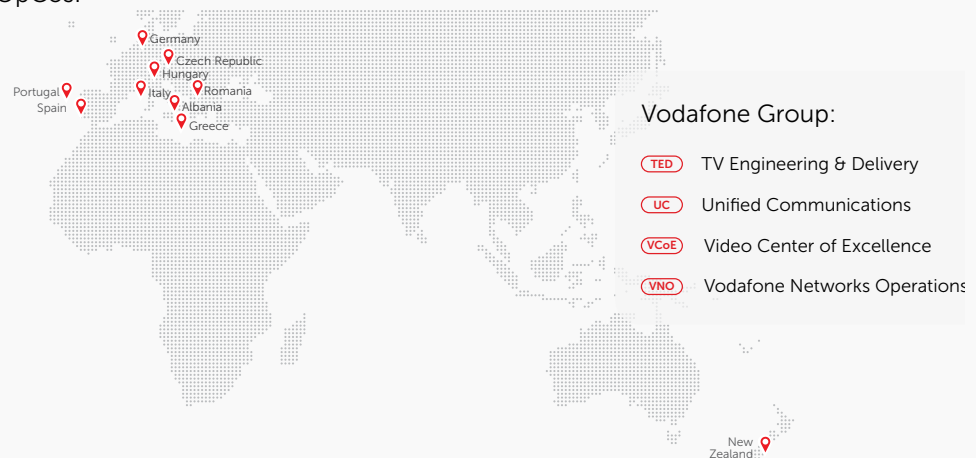
By controlling the entire data chain from the data collection process, which comprises different sources such as set-top-boxes and mobile devices, the behavioural raw data from local operators, including TV guide, subscriptions and video-on-demand, all stakeholders have great trust on the information being provided.

The pre-defined reports allow the establishment of a comparison baseline among the different OpCos, enabling synergies, sharing experiences and planning for the future.

Another important benefit brought by this project is a better knowledge of customers' experiences based on their behaviour across geographies and thus creating new opportunities for future services and continuous improvement of UI/UX.

Vodafone TV Analytics footprint

Vodafone OpCos:



Next Steps (The Future)

The evolution of the Vodafone TV Analytics platform has different complementary development axes.

By increasing and enriching existing data sources, the solution will be able to provide better insights to all stakeholders. Based on the new information and on how the platform is being explored, new reporting needs will emerge, making this a powerful platform that aggregates all the knowledge on Digital TV within the Vodafone world.

Finally, there is the opportunity to **expand the reports available to other areas** thus having a bigger impact on operations and helping local operators provide a better service and customer experience.

Finally, leveraging on data lake technologies and on a rich set of structured data, **analytic capabilities and real-time data mining** are taken to the next level and thus uncovering opportunities to better serve customers and enhance TV services. Moreover, these tools also allow proactive mitigation of network quality of service issues, through cognitive capabilities.


Why Celfocus?

Celfocus is a key Vodafone partner, notably in the development and deployment of Vodafone's previous TV reporting solution. By combining an experienced and skilled team proficient both in TV and Analytics, with deep in-house knowledge on Vodafone TV's analytics infrastructure, Celfocus has been a strategic partner to develop, deploy and deliver VTV components and end-to-end solutions in a fast, reliable and scalable fashion. Vodafone wanted a partner that could lead the entire Vodafone TV Analytics project, capable of setting up the cloud infrastructure, developing the solution and deploying and operating it. Celfocus' close relationship with Vodafone allowed the successful accomplishment of the new Vodafone TV Analytics platform.



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