External Big Data Monetization

A framework for telecommunication providers

(whitepaper)

instarea

Successful
and future-proof
monetization strategy
requires careful aproach
leading towards high value
opportunities consistent
with company's
goals.

There are **two types of data monetization**. The first is **internal** and is used to improve telco's productivity, offering, and operations. The second, on which Instarea focuses, is **external monetization**. It involves creating new revenue streams and making the data available to customers and partners.

External big data monetization creates new opportunities for telcos. Using the data telcos already have safely stored in EDWs, in the era of declining ARPUs and profits, is a very attractive prospect. The data can be seen as a golden egg. However, cracking it open is not always easy. The process requires navigating around various pitfalls.

The first obstacle telcos need to resolve is legal. **Personal data stored in EDWs is particularly sensitive**. Privacy of telcos' clients is always of the upmost importance. **Telcos have to be mindful about regulations** such as General Data Protection Regulation (GDPR) in Europe or Personal Information Protection and Electronic Documents Act (PIPEDA) in Canada. Non-compliance with national and international regulations can incur significant fines. In the case of GDPR it can be up to 4% of a company's global annual turnover. Plus, there is a reputational damage that could arise from injudicious handling of personal data. Therefore, legal aspect of privacy and data protection is one of the first to consider and should be captured within a clear **data strategy**.

Successfully resolving the privacy question is still the beginning of the external data monetization road. From the **engineering standpoint there are also several challenges**. Identifying data sources, preparing and cleaning the data, setting up a data protection architecture, building a back-end database connected to a user-friendly front-end with broad options to monetize the data. Preparing data layers relevant for business and integrating the newly designed monetization solution to automate the process of data feeding or campaign sending. These are a few engineering challenges that come with external data monetization at any telco. If done internally these may require significant manpower and resource allocation that need to be planned beforehand.

Building on the engineering and legal groundwork comes the **business side**. For a successful launch it is necessary define clear and **comprehensive use-cases** with a **solid business case**. Consistent and market relevant pricing strategy is needed, proper positioning, a broad range of customers and use-cases for which customers will be willing to pay. Finally, a balance needs to be struck between the opportunities and, for instance, the size of team dedicated, level of automation, support or sales.

Once you know which way to go, and what obstacles to avoid, it is reasonably simple to pick the low-hanging fruit of external monetization. This white-paper draws upon the experience from the development, deployment and successful running

and support of already tested external monetization solutions developed by Instarea.

In the next section, we have detailed **seven general rules** which, when followed, will show the path to external data monetization and it will help telcos navigate the troubled waters.

1 Opportunity mapping & data strategy preparation

2 Potential planning and use-case definition

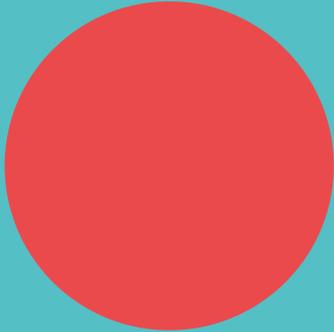**3** Legal & compliance alignment

4 Data collection and preparation

5 Technological arrangements

6 Data pricing strategy & business case

7 Market entrance planning

The path
to external
monetization

Opportunity mapping & data strategy preparation

The first step to successful external data monetization at every telco is the **identification of available data.** This may seem trivial, however every telco has a different data architecture and every telco collects slightly different data, which additionally is often siloed and only understood by the respective teams.

Not all data is created equal and some has much greater monetization potential than other. Geo insights for large segments of population is an obvious example. There is no other source of such precise and wide spread geo-location data than a telco. On the other side of the spectrum, there are different types of technical data. This is why the first step should always be a **thorough data audit** which allows to map the **monetization opportunity** and to define the **internal data strategy**.

The types of telco data which can be monetized are subject to **availability** and **data strategy**. We, at Instarea, have identified several types of big data that are typically collected by telcos and have a good monetization potential.

Data types

Customer data
Age, Gender

Contract data
Purchased phone HW, activated services, payment behavior

Traffic Data
Active events incl. roaming such as SMS, Call, Data transfer, Passive events (network updates)

Deep Packet Inspection data
Browsing & app usage

Network cell plan
BTS coverage and cell-plan data

Opt-in / Opt-out
Consents with regard to GDPR / other data regulation

Media behavior data
TV / media behavior (if telco offers IPTV)

WIFI network data
Similar to traffic data, but from WIFI routers (if such an offering is in place)

Other
Other relevant data a telco has & wishes to monetize

Potential planning and use-case definition

Once the available data has been identified, the next step is to **plan the use-cases** and **discuss the feasibility** with potential stake-holders.

Stake-holders within a telco who traditionally drive such initiatives are **innovation or new business** department, **business department** (B2B, B2G), **big data team** or **internal marketing or product teams** who want to justify their needs for internal tools with external use-cases as well.

This is where telcos can also look for **harmonization with other data sources**. This is where most companies look for partners that will enhance their data and provide potentially more **valuble new insghts**. These can be, for instance, *satellite imagery, commodity markets, fintel scoring data or store locations.*

From our experience, the **most valuable use-cases** with a quick time to market are on the following page.

Third-party targeted marketing as a service

Automate external marketing business in line with GDPR regulation.

E.g. Contact Males 40-50 in East London with this message.

Population analytics & location intelligence as a service

Create meaningful and valuable stories from big data.

E.g. Footfall reports for shopping malls; Transportation matrixes for cities etc.

Data access platform via API

Provide access to data via APIs with billing and access management.

E.g. Risk scoring of walk-in clients for banks.

Citizen notification and smart city platform

Smarter way for municipalities to communicate with residents. Not based on an outdated database but on real data about people in the area.

E.g. Notify about planned construction or weather emergency

Telco data processing, raw data access to dataset -

Streaming of raw data, custom projects on telco data.

E.g. providing raw anonymized signaling data to ministry of transportation

Legal & compliance alignment

Some of the data collected by telcos is very sensitive and almost always guided by national or international regulations. The next stage is, therefore, to **achieve compliance** with regulations and legislature.

One of the obstacles telcos can encounter when dealing with regulations is the **consent collection**. When planned for, this is, however only a minor set-back. The legal team has to draft consent collection forms for customers so they can provide consent with using their data for targeted marketing or location intelligence. Telcos have a momentous advantage as compared with other data-rich sectors. Plans are usually renewed on a bi-annual basis and when the customers come to the POS they can be offered (and motivated) to also sign a consent form. In our experience a relevant number of consents, of about 20% of the customer base, can be collected over a 6 month phase running in parallel to the technical implementation.

Most regulations require the data to be anonymized to a level where the individual customers cannot be identified from the data insight propagated. At this stage an **anonymization**

approach has to be developed. The definition of **data masking / anonymization / aggregation** has to be agreed on and the level of granularity has to be selected. Standards as to who and how has access to the data need to be defined.

Data collection and preparation

Step 4

After the **data has been identified** and specific **busi... driven data-layers** have been agreed upon the data needs to be collected and prepared from the various different places where it resides (EDW, CRM, network planning, etc.). The precise data requirements should be obvious from the potential planning and use-case definition stage and defined in a data interface agreement. Typically, some attributes are readily available, others need to be derived. At this stage the data anonymization approach, from the previous stage, is implemented.

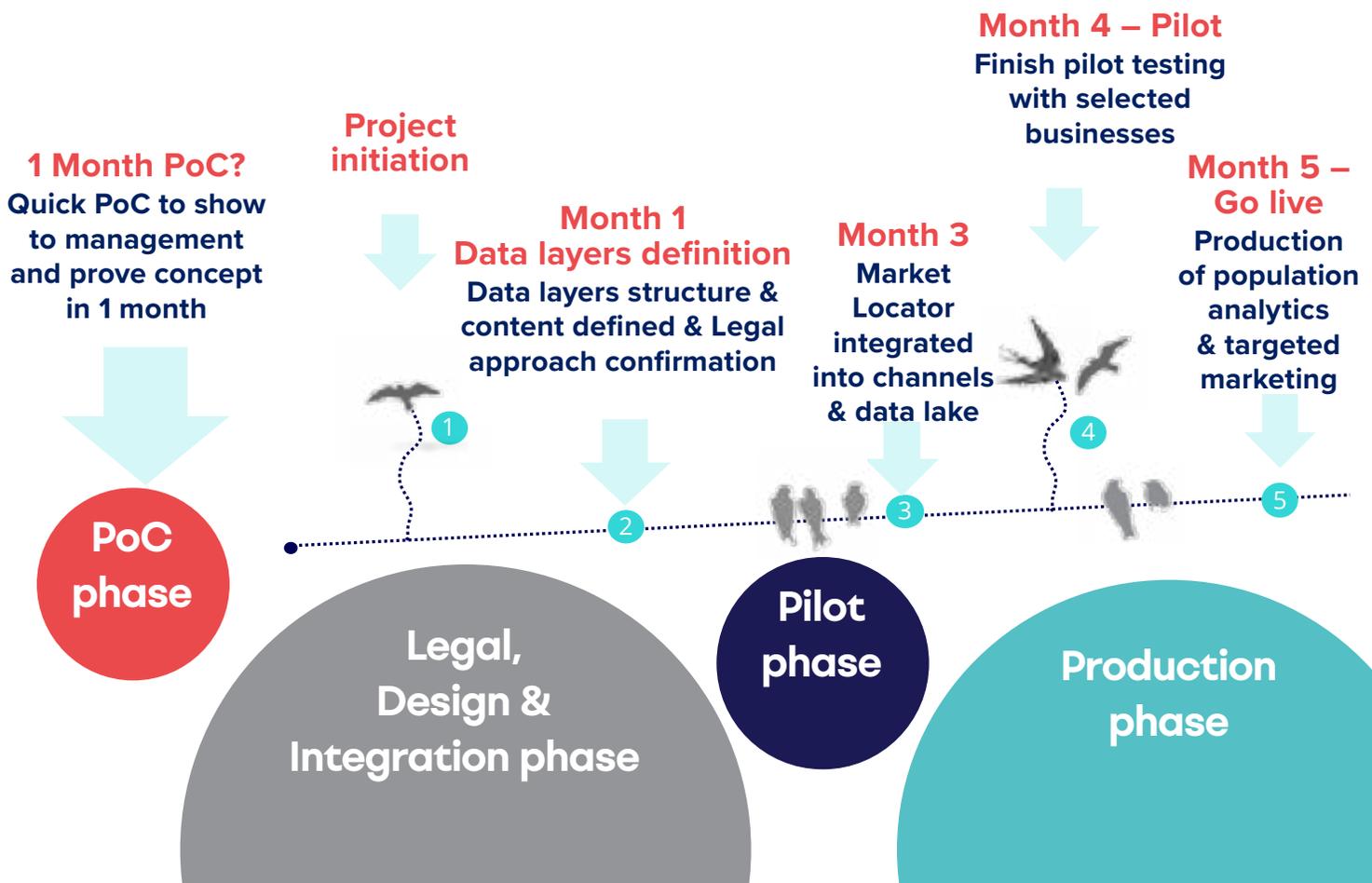# Technological arrangement & development approach

This is one of the most important steps and should, to a certain extent, be happening simultaneously during the entirety of the project. At this point of the project there needs to be a focused and dedicated resource allocation so that the solution is developed without unnecessary delays.

A **secure and reliable technological solution** has to be developed and deployed. This includes ensuring a smooth data transfer, developing the architecture allowing both external access & internal security, as well as programmatic & UI access. It is necessary to be able to manage the accounts of customers, bill customers, give them access to the data intelligence grant API keys etc. The goal is to maintain security while limiting personal efforts and giving as much flexibility to customers as well as internal teams (such as big data team) as possible.

Stake-holders need to ask themselves how quickly they can deliver what business requires and whether it is feasible to deliver the solution internally or whether to partner with an expert company, such as **Instarea**. It is also needed to plan accesses, prepare data, gather consents (where necessary), have the technology ready etc. These are important for project management and for keeping up with the deadlines that the project outlines set up.

At this stage the **phases to the data monetization** implementation have to be determined and agreed upon. Our big data monetization projects typically have four phases and time to market can be as quick as three to four months to pilot.

15

Month 4 – Pilot
Finish pilot testing with selected businesses

1 Month PoC?
Quick PoC to show to management and prove concept in 1 month

Project initiation

Month 5 – Go live
Production of population analytics & targeted marketing

Month 1
Data layers definition
Data layers structure & content defined & Legal approach confirmation

Month 3
Market Locator integrated into channels & data lake

PoC phase

Legal, Design & Integration phase

Pilot phase

Production phase

1
2
3
4
5

Data pricing strategy & business case

While the technological side is being built, it is necessary to think about the **data pricing strategy** and **business case**. Stake-holders have to ask themselves important questions necessary for a successful external data monetization. How to price the data in a consistent and optimal way? Who and how large is the potential customer base and what segments do they come from? How do we make the services afford-able for small companies and at the same time be able to capture the revenue potential and willingness to pay of major corporations?

Market entrance planning

Finally, when the data pricing strategy and business case are ready, the **market entrance planning begins**. The business and marketing teams develop a go to market (GTM) and

marketing strategies. A pilot has to be planned, pilot customer onboarded and the pilot executed. Key performance indicators (KPIs) for the sales of the data monetization use-cases have to be set with processes aligned to bring the sales team on-board and achieve strong revenue growth out of the gate.

Conclusion

When a telco follows a set of relatively simple steps an external data monetization quickly becomes a profitable undertaking. Once the solution for external monetization has been developed and implemented it provides a steady and profitable stream of revenue. Nonetheless, the basis of the strategy should be built on a sturdy platform to allow for the gradual adding of new use-cases and thus revenue streams.
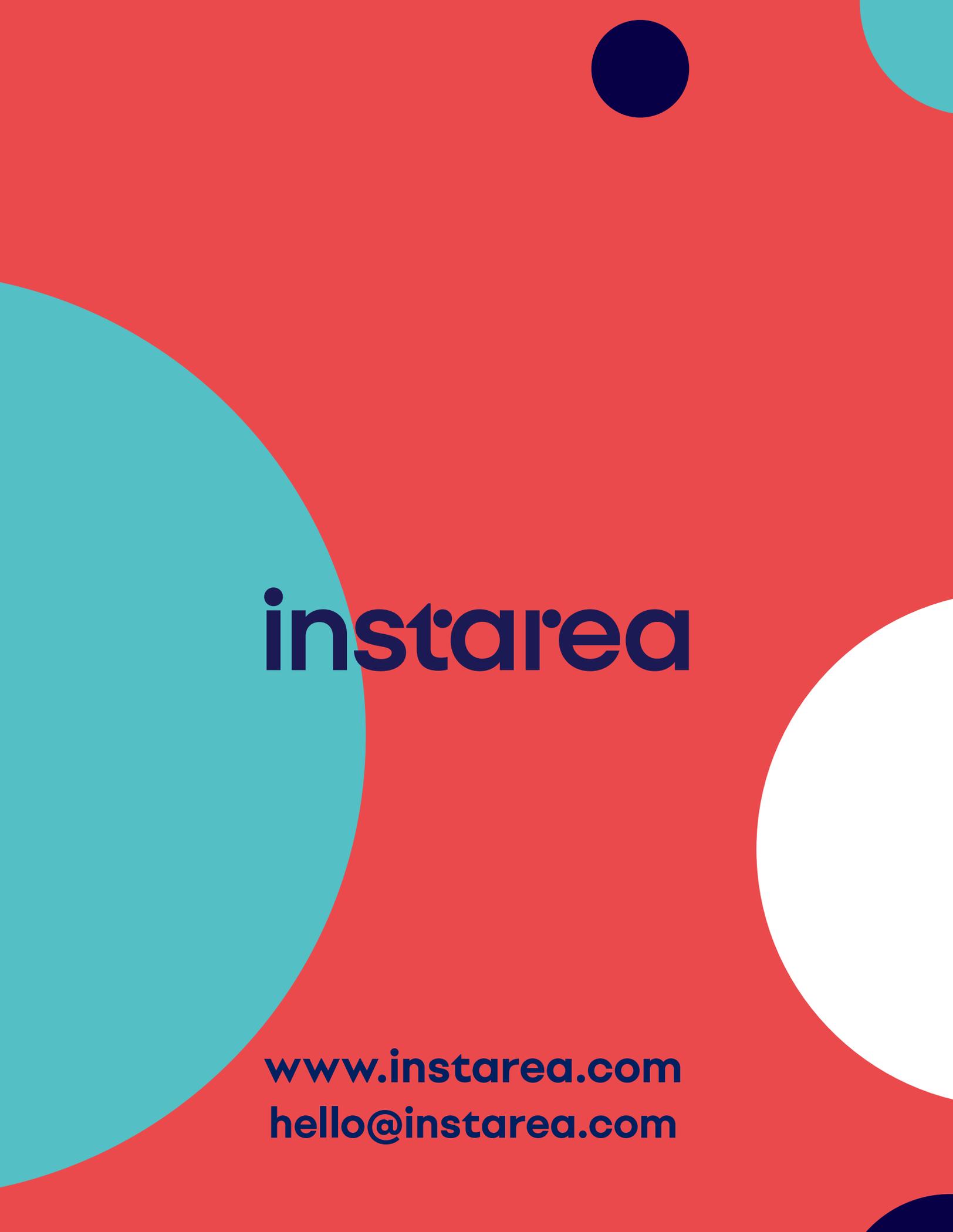
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