



SQREAM

The Telecom Executive's Guide

Powering Your Business with the Full Potential of Artificial Intelligence

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5G, IoT and the Telecom Challenge

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What Does AI Mean for the Future?

About SQream

5G, IoT and the Telecom Challenge

Telecom is an industry in data overload. And while every sector has its own version of this, with 5G and IoT, mobile operators get more than their share of the challenge. An integral part of digital transformation, AI is the hot new tool in everyone's arsenal. Yet, many organizations are still trying to figure out how best to implement it.

According to PWC's ['AI Predictions 2021'](#) report, only 18% of surveyed telecom companies have fully enabled AI processes with widespread adoption, even as 76% say they anticipate AI becoming a "mainstream technology" in their organization in the coming year. Performance, customer service, planning – AI use cases run the gamut – but a use case and an AI model do not necessarily lead to success.

When it comes to implementing AI in the organization, many factors need to be considered before even getting started – Where is your untapped revenue? Where can you save? What is the risk? Do you have the resources in place to enact your AI strategy? Can you analyze the data you need to make it happen? We take a look at some of these questions below and lay out some general ground rules to follow to ensure your organization's AI project is on the road to success.

Only 18% of surveyed telecom companies have fully enabled AI processes with widespread adoption



AI is All About the Data – Lots of Data

Before we talk about the AI process itself, let's talk about what the organization needs to train an AI model: data, and lots of it – so there's the issue of quantity: the general rule is that as your model becomes more complex and its parameters grow, the amount of data you need increases in kind. When taking the more structured ML approach, there is a point of saturation in which the addition of data no longer has an effect on the results.

But when considering deep learning models, as they grow in complexity, parameters are reset, training changes and the learning curve grows. Obviously, this requires substantially greater amounts of data. So how much data do you need? While it varies per case, it can actually be estimated by building a learning curve diagnostic of the use case model that cross references data size with accuracy.

2.

AI Needs Clean Data

Next there's the issue of quality. You can have the greatest AI initiative, but if you base it on dirty data, it will fail. Data quality is paramount to achieving accurate results. Training AI algorithms on biased, error-ridden data leads to skewed results. So what is bad data? Some examples include incomplete data with missing attributes, inaccurate data with wrong conversions or calculations, and inconsistent data with missing data sets. How do you get rid of it? Start by putting quality control into place to filter it out before it even gets into your system, then sit down to clean the data you already have. Getting your data clean and organized is a crucial step in making you AI initiative a success.

- **Get rid of all unrelated data** – if it does not fit, it should not be there.
- **Delete doubles** – say goodbye to data duplicates.
- **Standardize everything** – make sure all your data is one uniform format.
- **Fill in the blanks** – or get rid of incomplete data.
- **Review your outliers** – and when appropriate, delete those due to faulty data.

3.

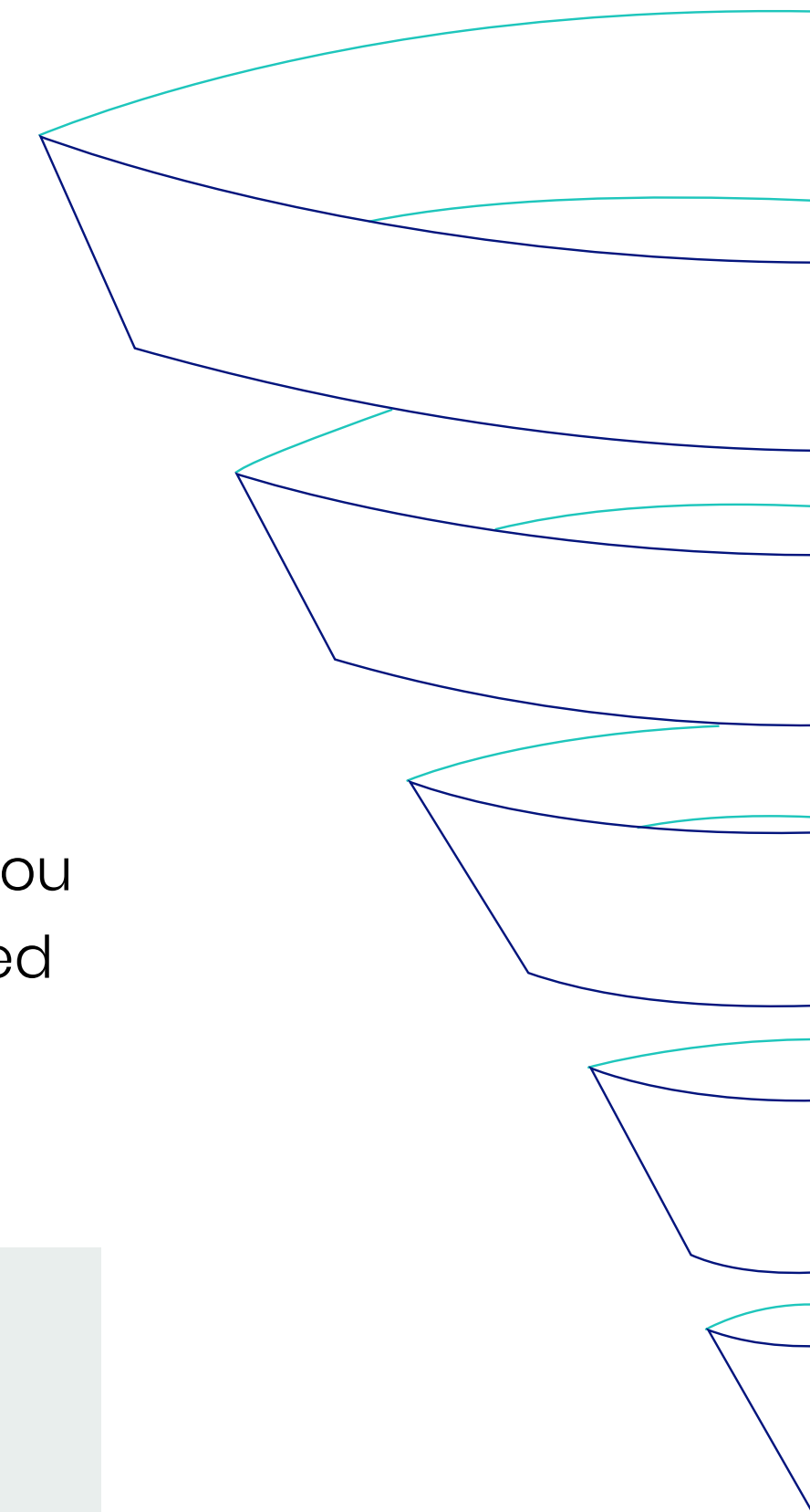
Know Your Business Value

According to the 2020 Gartner poll and webinar, 'Drive Strategic Mandates for AI in the Enterprise,' it is this missing connection to business value, and not the oft-touted lack of AI skills, which hinders organizational progress towards AI implementation. What does this mean? As you build your AI initiative, you need to understand your organization's existing capabilities and develop use cases in which you can articulate the opportunity for new revenue, savings and improved customer experience, while knowing that the risk is less than the ROI.



The most significant struggle of moving AI initiatives into production is the inability for organizations to connect those investments back to business value.

Frances Karamouzis, Gartner Distinguished Research Vice President

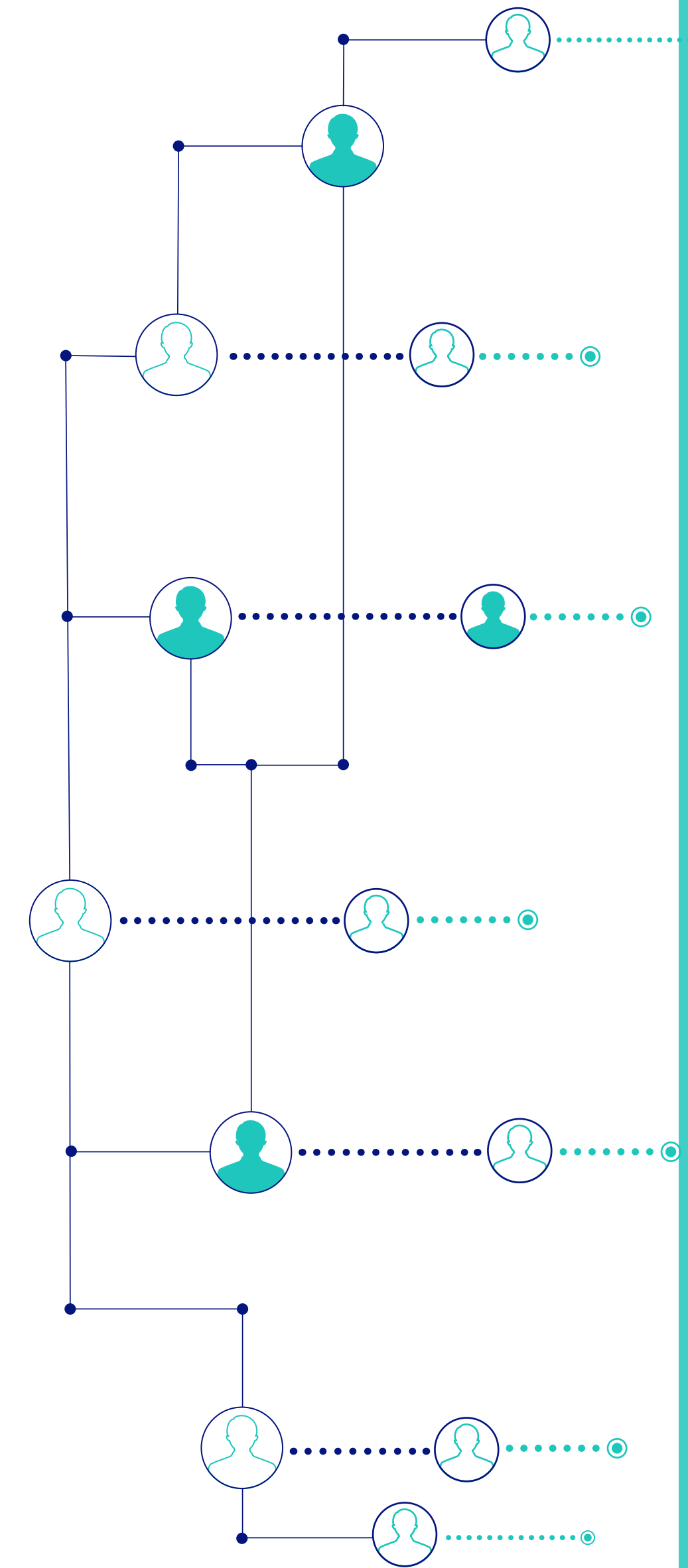


4.

Talk to the Right People

When developing your list of potential use cases, you need to find those where the value is clear, and ROI outweighs cost. The best people to get this information from are those leading the business. Make the rounds and do your research, understand how their end of the business works, get insights into their processes, find out where they're making money and where they're losing it.

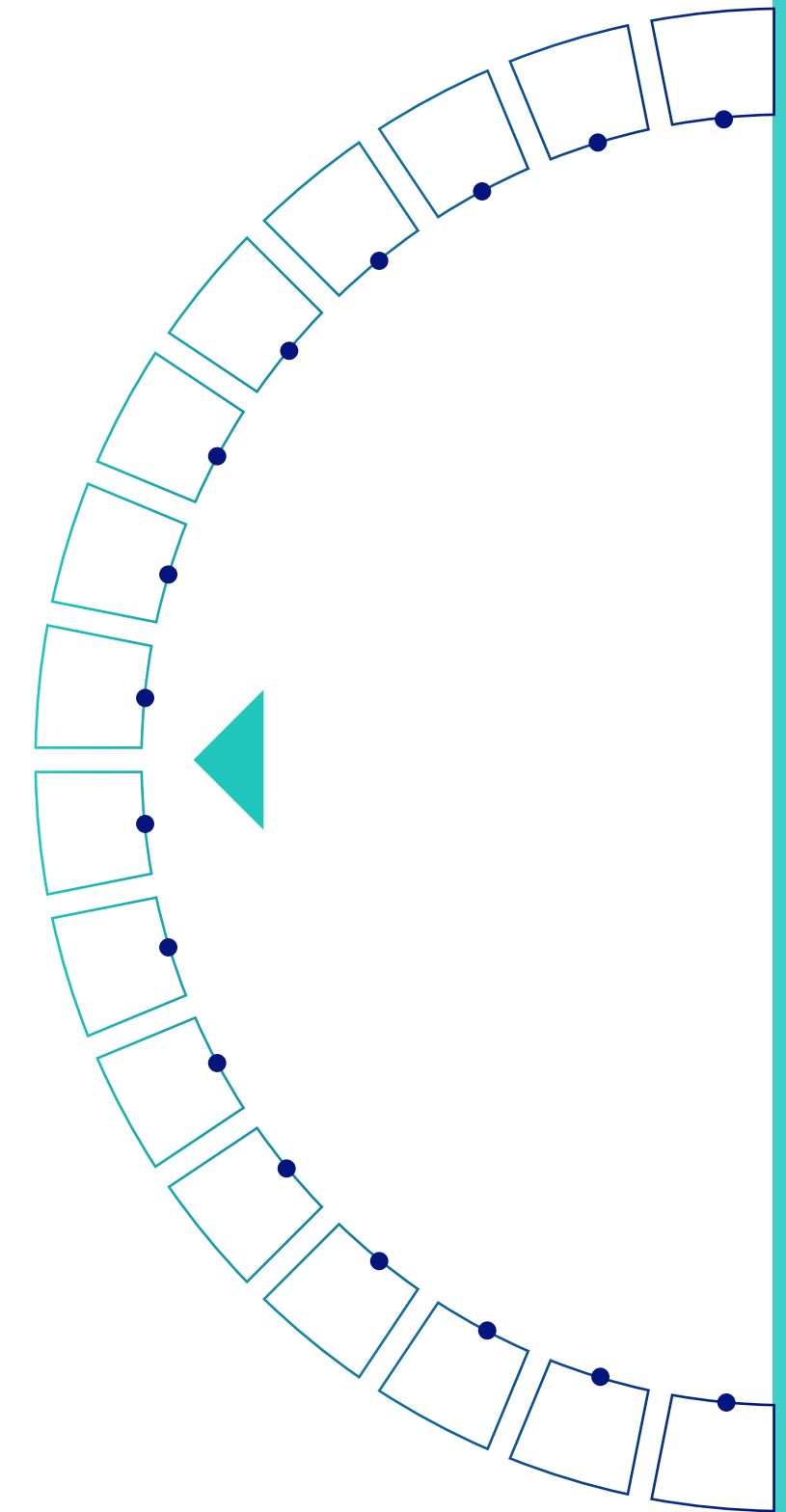
Your use cases should answer to a specific challenge of the business, while considering the overall business strategy and priorities. Now you begin honing your use case list.



5.

Carry Out a Thorough Risk Analysis

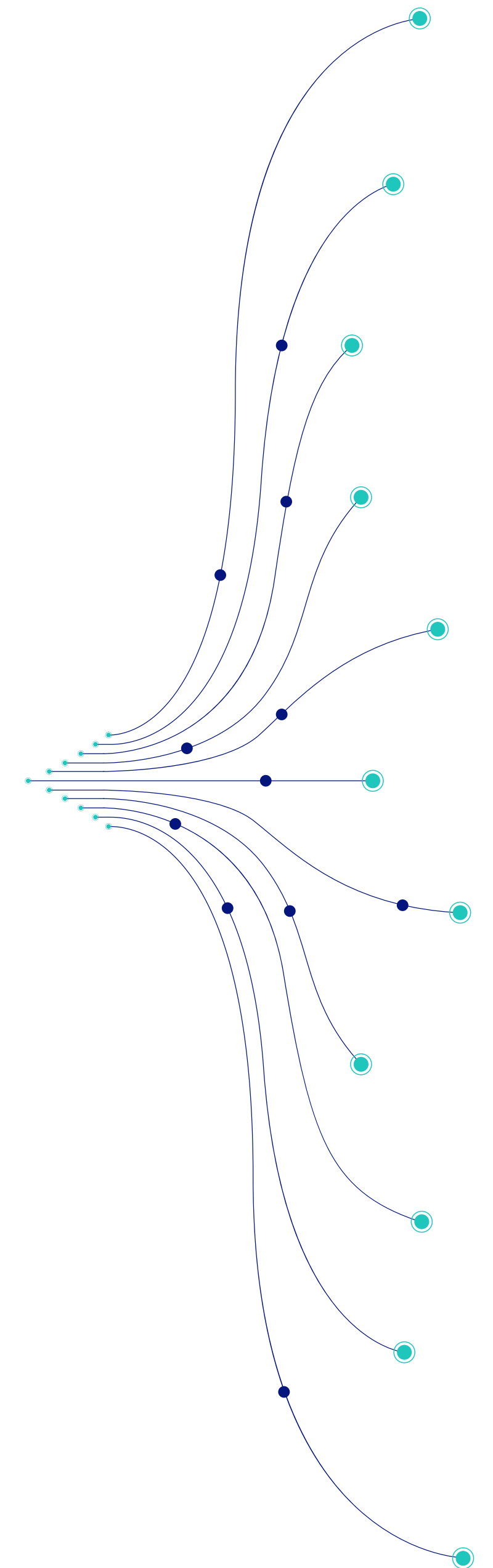
You've identified a list of use cases you believe will bring the organization true value. The next step is to carry out a detailed risk analysis, prior to moving forward with your test cases. Not every use case is the right fit for the organization. Your goal should be to focus only on the highest potential opportunities, where benefit obviously outweighs risk. Going for the low hanging fruit – especially at the beginning of your AI initiative – is a good way not only to succeed, but to get critical stakeholders' buy-in moving forward.



6.

Start Small With Experimental Cases

Time-wise and budget-wise it is best to begin with a small, short, low cost project for your first stab at AI. This is where you carry out your EDA (Exploratory Data Analysis) and see how your data integrates with the processes you have in place. You can take a very small investment of money, resources and manpower to examine the use cases you have in mind and see whether they yield the results you need to justify greater investment.



7.

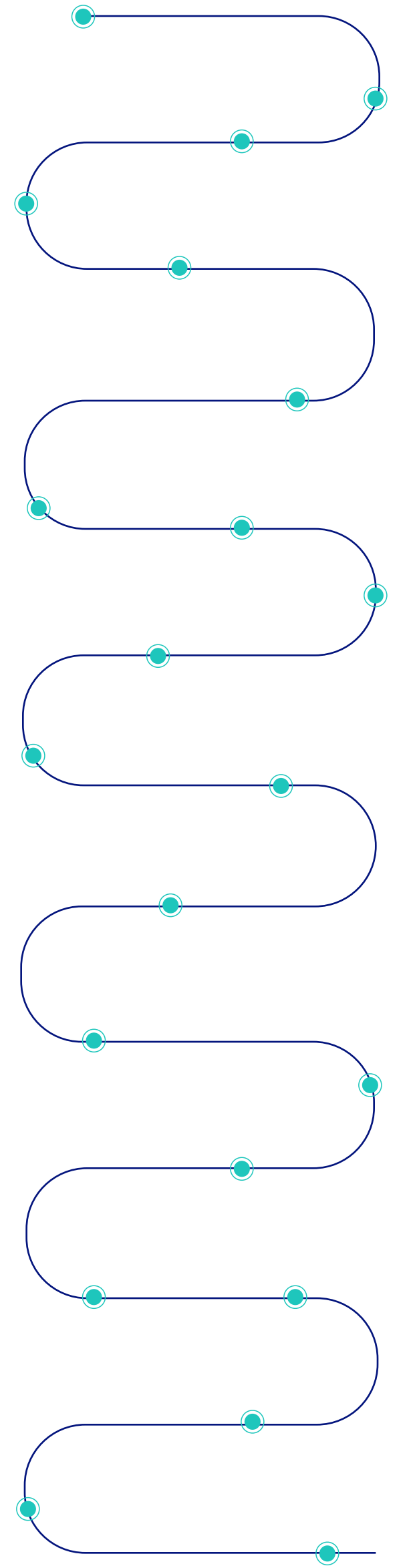
Measure Measure Measure

Ultimately, you assess the effectiveness of your AI project by measuring the profit contribution – monthly recurring revenue or operational cash flow are two examples. But before you can even talk about profit, you need to measure performance on an operational level. This is where you create a set of metrics which you can monitor throughout the project lifecycle for insight into effectiveness. On the proxy level, these could include indicators such as objective functions, which need to be minimized or maximized to prove AI success; Mean Absolute Error, to determine accuracy of predictions, and others.

8.

Make It Explainable

As with any project, you need the buy-in of stakeholders, team members and others involved in the periphery. Implementing explainable AI grows trust in AI decisions, by providing a framework for understanding predictions made by the ML model, and not merely presenting outcomes. This allows your team to tweak models as needed, while also giving a clear view into the predictions presented in models, dashboards and other aspects of the project.



What Does AI Mean for the Future?

The move to the cloud, edge compute, 5G and AI all play integral roles in telecom organizations' journeys to digital transformation. As in most industries, smart mobile operators will increasingly leverage AI to automate business and technology processes and utilize its capabilities to increase performance and returns. They will also need to manage growing data, overcome antiquated infrastructures and rapidly analyze, almost on the fly. Success in these will translate into benefit for the organization.

Potential AI use cases within the telecom industry – from improved customer experience and product innovation to predictive maintenance and network optimization (plus many others) – are becoming increasingly recognized as places where data science can contribute to the organization's bottom line.

By understanding your business challenges and by working methodically to identify those use cases where potential returns outweigh cost, your organization can implement a successful AI initiative.

About SQream

SQream provides an analytics platform that minimizes Total Time to Insights (TTTI) for time-sensitive data at-scale, both on-prem and on-cloud. Designed for the new category of tera-to-peta-scale data, the GPU-powered platform enables enterprises to rapidly ingest and analyze their growing data – providing full-picture visibility for improved customer experience, operational efficiency, increased revenue, and previously unobtainable business insights.

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