

**Telco churn task:**

**Context:** You are working for a telco company providing home phone and Internet services to customers. Recently, many customers have left the company. This phenomenon, known as churn, is a major problem that needs to be tackled. In the telco industry it is well known that the cost of retaining an existing customer is far less than acquiring a new one. Hence, being able to predict churn is very important for our business stakeholders.

**Task:** The “AI Exploitation and Innovation” team has been tasked to have a deeper look into that problem and in particular to predict churn for the next quarter (Q3 2021). In other words, the task consists in identifying which customers are most likely going to churn in the next quarter. By doing so, the company can proactively do its best to avoid customers from churning - by for instance proposing customers with a better deal.

**Dataset:** You are provided with a dataset of customers in Q1-Q2 2021. In attachment, you will find more information about the dataset.

**General guidelines:**

- Explain your methodology and findings
- State explicitly assumptions you may be doing during your analysis
- Code should be understandable by any team member
- Ideally you use a notebook to walk the reader through your analysis and train of thoughts

## **Tasks**

### **Part 1: Finding the customers at risk - Predicting churn**

**Context:** The first task is to create a model to predict customers who are likely going to churn in the next quarter. Campaign managers are expecting you to build a model in order to identify customers who are most likely going to churn and include them in their marketing selections.

To solve the task, you are provided with:

- csv file with relevant data
- Information about data (*data\_description*)

You need to present the technical results to the “AI Exploitation & Innovation” team. You can use your preferred coding language (R/Python), bearing in mind the below points:

- Code should be understandable by team members
- Think about how this model is going to be used in practice?
- Related to the above point, what KPIs/metrics would you look at and care about?

### **Part 2: The pitch - Management summary**

**Context:** Higher management has heard you have created a model to predict churn. They are very keen to know more about the model you have created. You are invited to a 15-minute presentation and need to convince them about the added value of your analysis. Remember that you are talking to stakeholders who may not have the same understanding of AI and ML as you have. Please consider the below points:

1. Explain with 2-3 slides the outcome of your analysis. Remember to focus on how you would convince higher management of the added value/benefit of your analysis?
2. What concrete recommendations would you provide?

### **Part 3: Making a difference in practice - Industrialization**

Congrats! You have convinced higher management about the added value of your analysis/model. They would now like to practically use your model for customer selections in marketing campaigns.

The next step in that process is to set your model in production! Explain what are the steps you think one would need to have the model you created in a production environment?