# Lingaro's EURO 2020
Data Visualization Challenge
Summary

Introduction

After long months, full of emotional moments for each European football fan, the EURO 2020 tournament is over. The tournament started with Andrea Bocelli serenading the Stadio Olimpico in Rome, and has ended with Italian captain Giorgio Chiellini lifting the European Championship trophy in London after a gripping penalty shootout victory over England.

To celebrate this event, **The Lingaro Euro 2020 Data Visualization Challenge**

We hope you enjoy this overview of the competition.
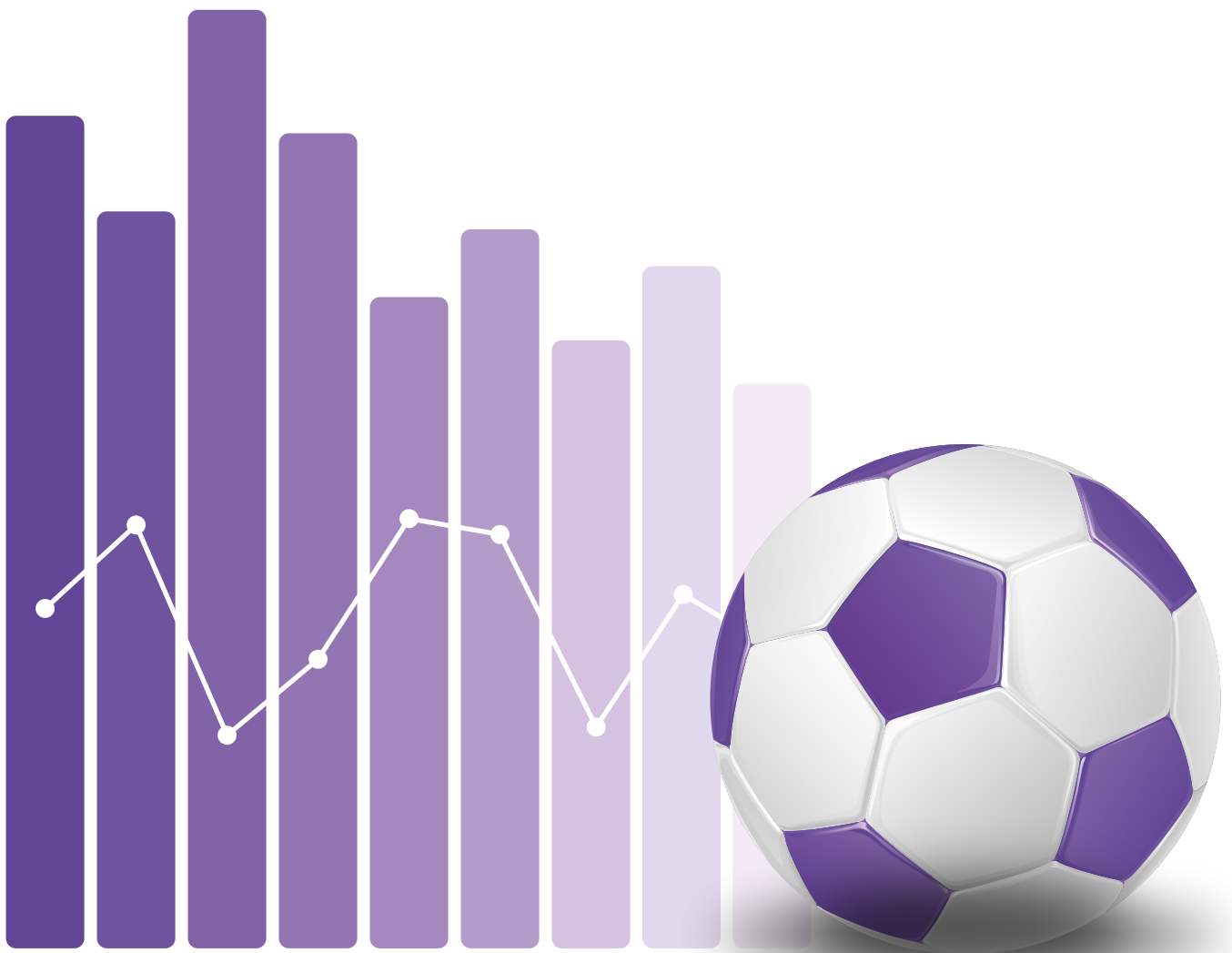
What was the subject of the dashboard and the sources?

This edition, we decided not to force participants to create dashboards for specific scenarios. Everyone could submit any subject related to the EURO 2020 Tournament.

- The main source was a dataset from Kaggle, which included over 40000 results of international football matches, starting from the very first official match in 1972 up to March 2021. The matches range from FIFA World Cup to FIFI Wild Cup to regular friendly matches.
  Click here to visit Kaggle's page
  In May, when we shared Kaggle's source about the football results, the information about penalties was not included there (today, July 2021 penalties are accessible). As one of the participants noticed, missing such important data can affect the predictions.

- Many participants enriched the main data source with additional sources like FIFA ranking, footballers' position and value on the market, red card history, stadium details, and even the TV schedule of EURO2020 (thank you Michał Filipczak, it was super helpful).

What kind of tools were used by the participants

One of the requirements of taking part in the contest was to publish the entry and make it publicly available. This edition, all of the participants decided to use **Tableau Public** or **Power BI.**

Some of the participants were focused on telling the history of the tournament, to present some fun facts, and some tried estimating who will be the winner of specific stages and even the final.

Did anyone predict the Winner?

Yes, two participants made a prediction model that indicated Italy.
Congratulations to Filip Dowgrid and Agata Jadczak!

Click here to see the entry

Filip's logic behind the prediction:
Two factors were taken under consideration – the direct **results between teams throughout history** (as a main variable) and **current difference in pacing's in FIFA ranking** (as a coefficient of current national team performance).

Click here to see the entry

Agata's logic behind the prediction:
„In order to analyze chances of winning, special weights algorithm was prepared based on teams results from previous years. Weights used for analysis take into consideration such aspects as: results when playing with team from the same group, results when playing with other European teams, results when playing with other teams from all over the world that don't take part in EURO 2020, year of match (to focus more on current condition) and if team was home or away player."

Is the FIFA ranking a strong predictor?

While Filip Dowgrid used the FIFA ranking to predict the winner, another participant **Wacław Piekara** decided to investigate if the position of each team in the FIFA ranking is a good factor for predicting winners. He collected all the FIFA rankings published since 2010 and joined them with the historical data.

The answer is yes. The FIFA ranking is relatively good in making predictions of a match result, but not always. It is rather a good factor in the case of teams with higher positions. Such teams win more frequently than those with lower positions.

This tournament was hosted in many countries (Italy, Denmark, Russia, Netherlands, England, Scotland, Spain, Hungary, Germany). Wacław noticed that playing at home helps the higher ranked teams. At the same time, there is no such effect for the teams with lower rank - they have the same chance to surprise and win at home as on neutral grounds.

Click here to see the entry
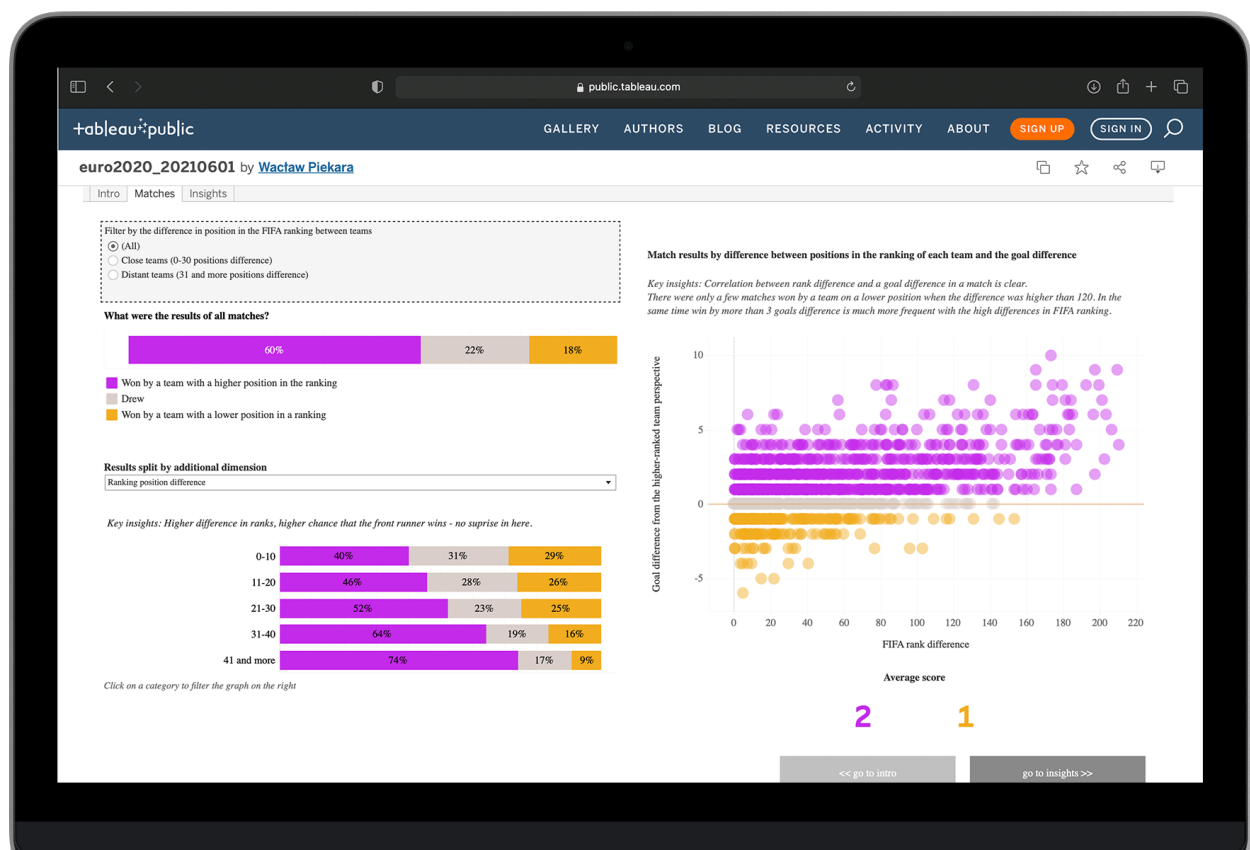
The best entries and what we liked

1st PLACE Agata Jadczak

Click here to see the entry

This is the 2nd edition of our contest in which Agata participated. It is amazing to observe her huge increase in skills. Well done, Agata!

Highlights of Agata's work:

• Good visual connotation with official Euro Branding.

• Clear goal of each dashboard.

• Clear navigation including business questions.

• On the competitors – tab clear and easy way to select pairs of countries.

• The average goals per match are filtered just of the last 21 years.

• Interesting fun facts about each team.

What could be improved?
We would suggest using better font formatting in the tab "How Euro looked like in previous years".

The best entries and what we liked

2nd PLACE Arnold Brytan

Click here to see the entry

Highlights of Arnold's work:

- We found a lot of work and football passion here.
- Large set of data used, only last years were taken into consideration.
- It is not just a report, it is a powerful application, which Arnold fed with plenty of additional data (the team's squad, player's details and much more.
- Arnold provided us with an instruction to help recognize all the features behind the application. Regarding the complexity of the application, it was easy to miss something, for example the feature „set up your squad". It is a bit hidden (Tab Teams/ Set up your squad) and is really catchy. We felt like a coach, choosing the tactics and squads – thanks for a lot of fun Arnold.

- We appreciate the consistent design and analytical approach – he built KPIs (Effectiveness, Attack, Defense, Versality, Stability and Team Rate), which could help with predicting the final score.

What could be improved?
We would suggest highlighting the most important information, create a story, reduce the number of tabs, just make it simpler.

The best entries and what we liked

3rd Place Mateusz Karmalski

Click here to see the entry

Highlights of Mateusz's work:

- Good UI.
- Clean design improving readability.
- The Best UX – a nice balance of viz and text, text is nicely split up.
- Clear and simple message from the very beginning. It is clear for the reader that all of the visualizations relate only to the EURO tournament data.
- Top-down approach reflected in the order of content and well-planned navigation.
- Each Visualization has a title and description with the insights.
- Additional small descriptions – which tell us how Mateusz counted the points.

- Limited colors. Turquoise background, white fonts – it really works well together. Mateusz played well with the color saturation between the two main colors. He reserved colors only for Flags. This makes this entry very readable.
- Many interesting fun facts about the EURO tournament - Did you know that since 1984 there is no third-place game?

What could be improved?
We would suggest making the dashboard a little more interactive.

The best entries and what we liked

Filip Dowgrid

special recognition for predicting the best teams and the WINNER

Click here to see the entry

Highlights of Filip's work:

- We like that lots of information was organized into one place in an uncluttered way.
- Navigation to the next dashboard is not very intuitive, but when it's revealed – the user finds the real treasure - Filip's predictions.

As mentioned before, Filip enriched the main data with the FIFA ranking. Based on two factors the **results between teams throughout the history** (as a main variable) and the **current difference in pacing's in the FIFA ranking** (as a coefficient of current national team performance), he anticipated the full path of the Tournament. Filip knew the Final battle will take place between Italy and England. He bet on Italy – with success.

- The knockout chart is very well known to all football fans. It is easy to follow the winner's path.

What could be improved?
We would suggest making a more mature layout, with different types of countries selection (dropdown requires a lot of clicks)

The best entries and what we liked

Anna Białas

special recognition

Click here to see the entry

Highlights of Anna's work:

- Nice landing page and legend with instructions (tooltips explained).
- The entry is consistent, the design is clear, there is enough space between visualizations.
- Is intuitive to navigate and interactive.
- It would be nice to have some description on how the results are calculated.

What could be improved?
The important question which should be asked is how to use the available data to make the analysis the most accurate and valuable.

- Do we need to use the whole range of years?
- Should we use all available tournaments (including Friendly?) or rather focus on the most important ones?

The best entries and what we liked

Michał Filipczak

special recognition

Click here to see the entry
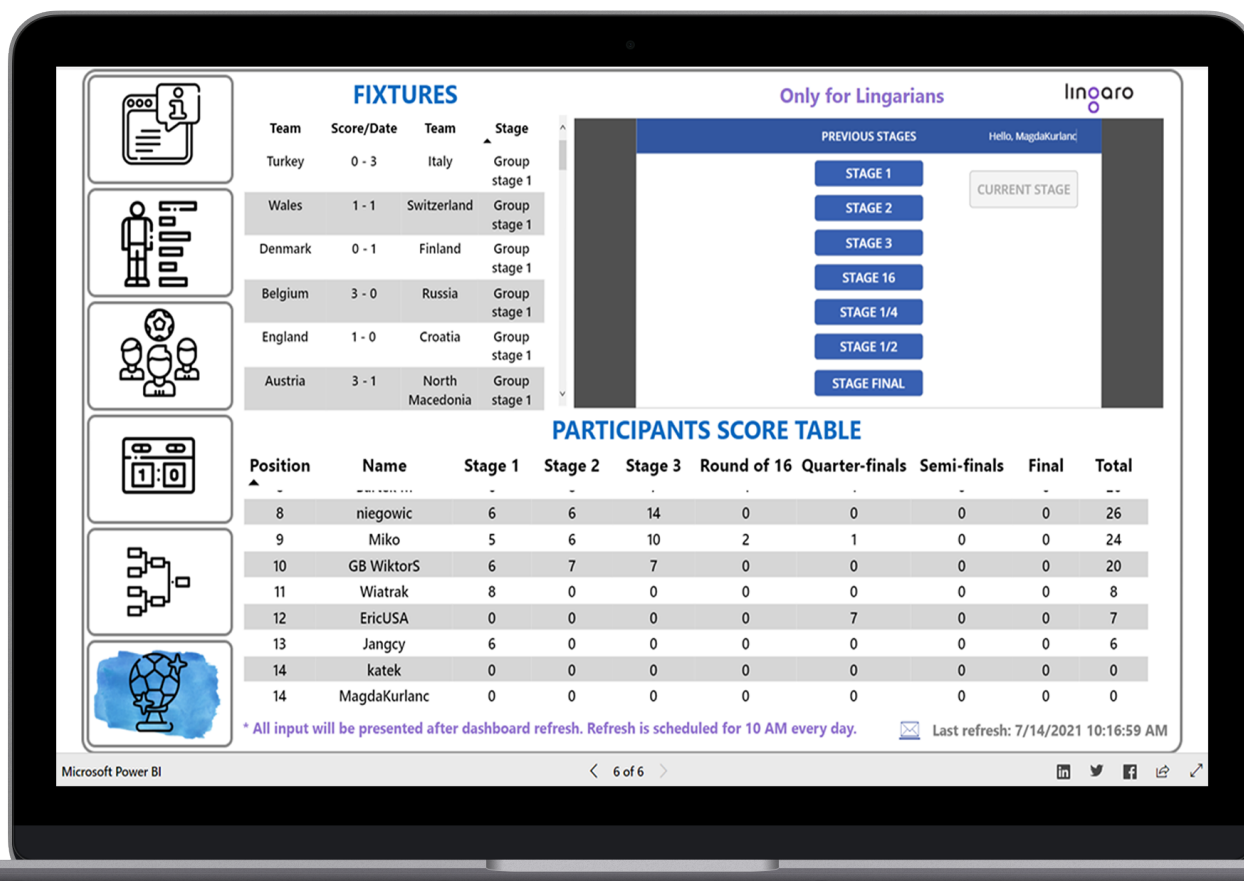
Highlights of Michał's work:

- Many thanks to Michał for preparing the Lingaro Betting App in Power Apps.
- We appreciate the responsible design - the report opens on mobile phones in the same way as on the Desktop.
- When using on mobile, huge navigation icons help switch the tabs.

What could be improved?

- Having titles and even small descriptions would be very beneficial.
- We would suggest less tables and more interactive visualizations.
- Mobile version

Top Takeaways
What can be done better

Missing TITLE
Example 1. Missing title and attacking fonts

The wall of text, bold, italic, regular, few sizes chosen – it is way too much for two eyes, difficult to read and to focus on what is the purpose of the dashboard.
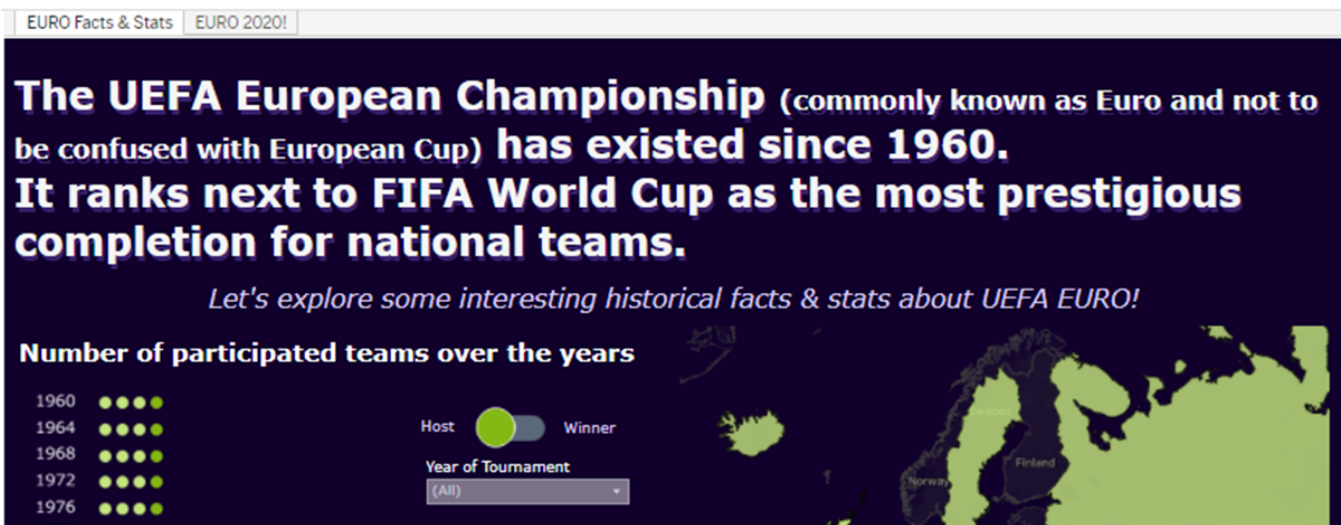
To avoid such errors, we suggest reading more about using fonts in Tableau. Check out **"How to use fonts in Tableau?"** by Tableau Public Ambassador, **Judit Bekker**.

Below is an example of a well-designed and formatted title/subtitle and visualization.
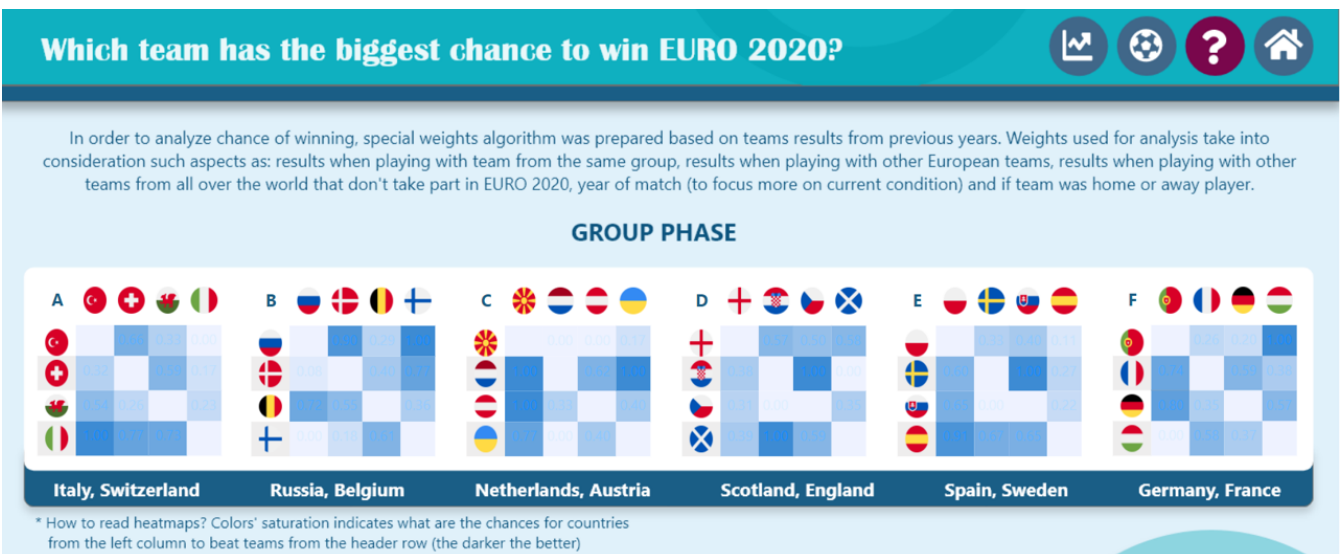
Top Takeaways
What can be done better

Missing TITLE

Example 2. Promising title and not meeting expectations

In the example below the title is clear, well formatted, and promising, but how is that relevant to what the author is presenting in the dashboard?

- It is difficult to understand what the author wanted to express by "Total number of goals scored and lost by selected country". It is not clear who is the opponent. Maybe a more elevant title would be: „Poland vs. The rest of The World. All games ever played, from FIFA World Cup to regular friendly matches."

- The strong point is the color formatting with a limited number of colors which were used. Green background, white fonts – that contrast works. It is clear that blue reflects wins and orange the defeats.
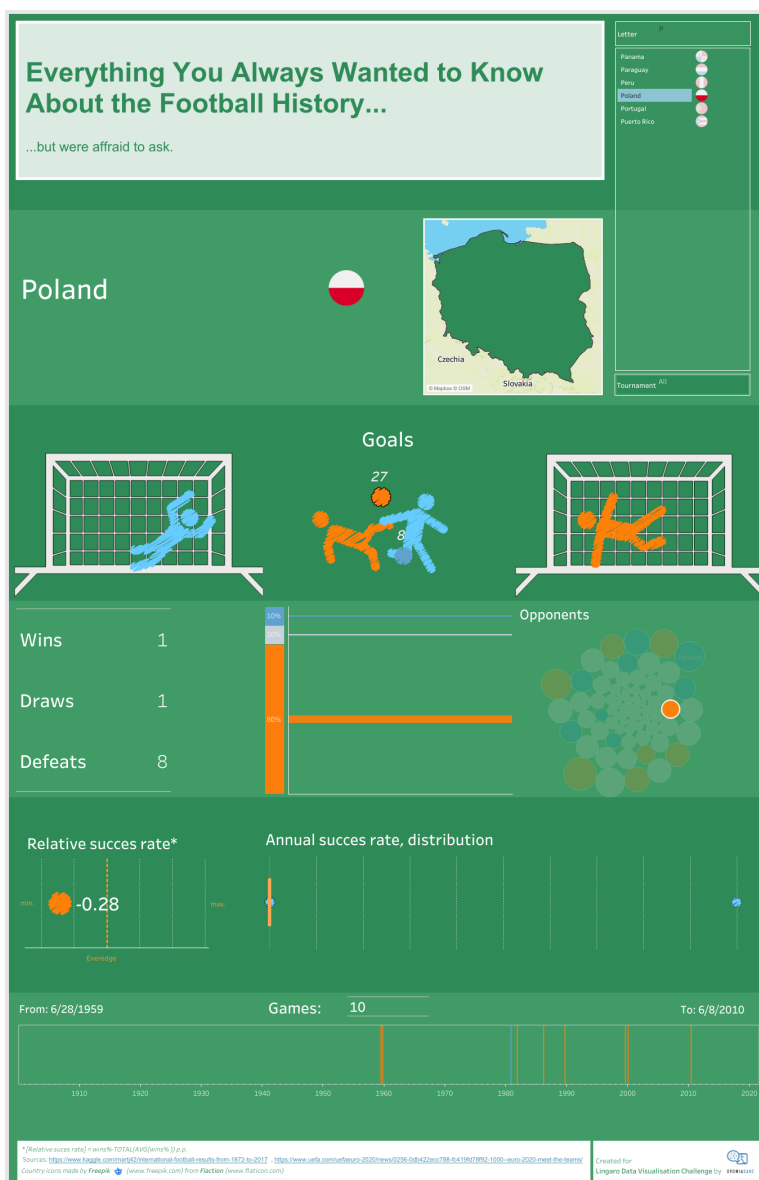
Top Takeaways
What can be done better

TRICKY charts

Example 3: Sankey Diagram

The Sankey is complex to build in Tableau. It catches the eye,
but when there is no flow to display, using such viz does not make sense.
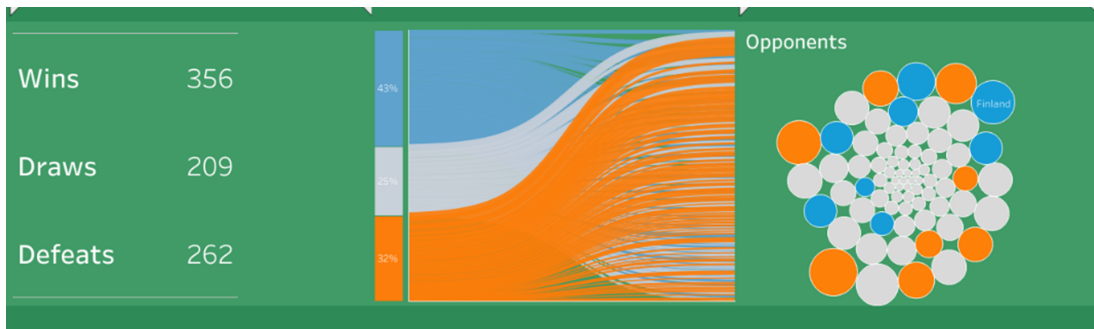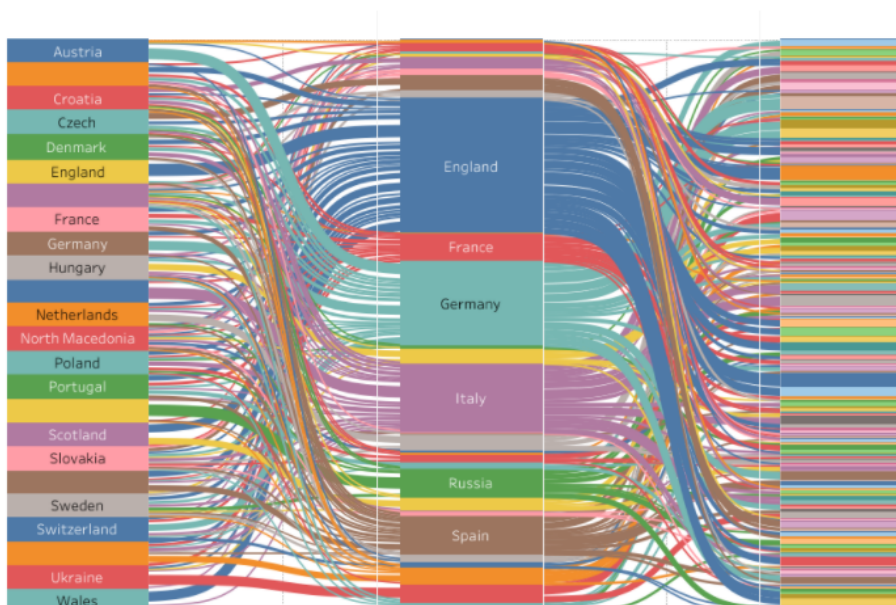

Also, it is very risky to use Sankey when you have so much data, like in the example
below. The below chart illustrates the flow of football players from the National
Team through the Country of Current Player's club to Club.

Example: Polish footballer Robert Lewandowski belongs to the German club FC
Bayern Munich.

If you want to read more about the Sankey Diagram and its proper usage, we
recommend you **click here**

Top Takeaways
What can be done better

TRICKY charts

Example 4: Radar charts – when do they work?

Radar charts, sometimes known as spider, start, or web charts, are a two-dimensional chart type designed to plot one or more series of values over multiple common quantitative variables by providing an axis for each variable, arranged radially as equi-angular spokes around a central point.

In this example we can see the shape which allows us to see which team's skills performed well or poorly.
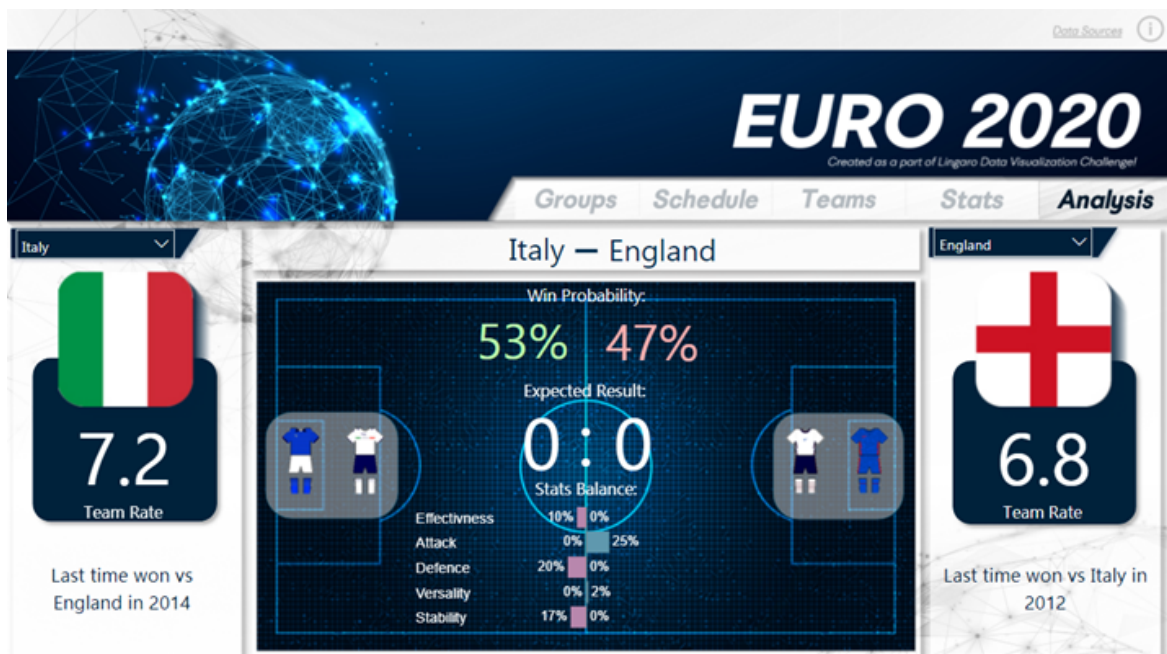
TRICKY charts

Spider charts are often criticized because of difficulty to read and to compare results between series. There are more effective alternatives to radar charts. These include bar charts, as shown above, line charts (particularly for timeseries data), parallel coordinates charts and, quite simply, tables showing the raw figures.

Below we present other visualizations from Arnold's entry. You can check, based on which tab, you would easily decide who will be the winner.
Can you see the difference?

If you want to know what the other alternatives are, we recommend **reading this article**.
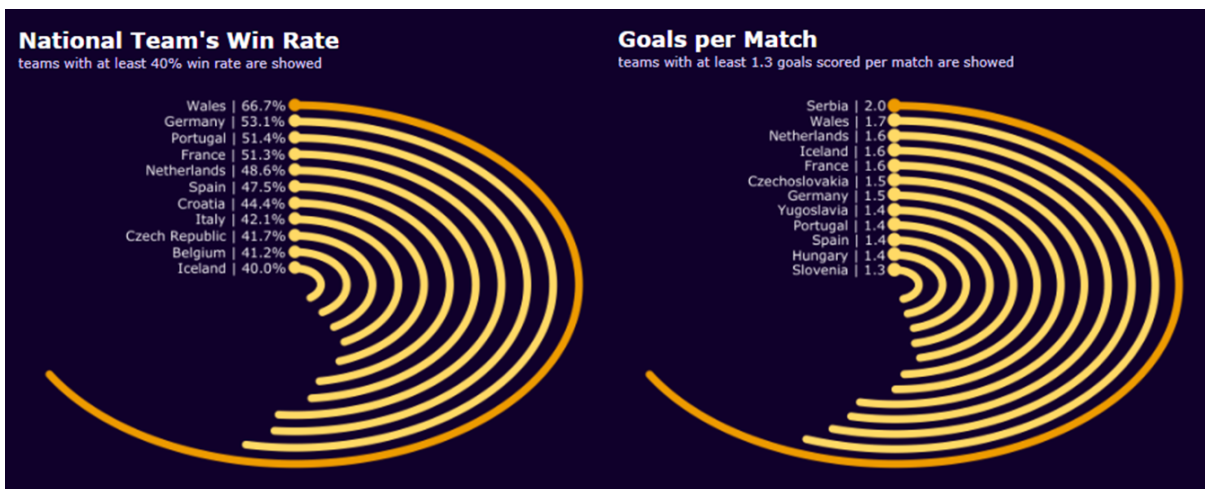
Top Takeaways
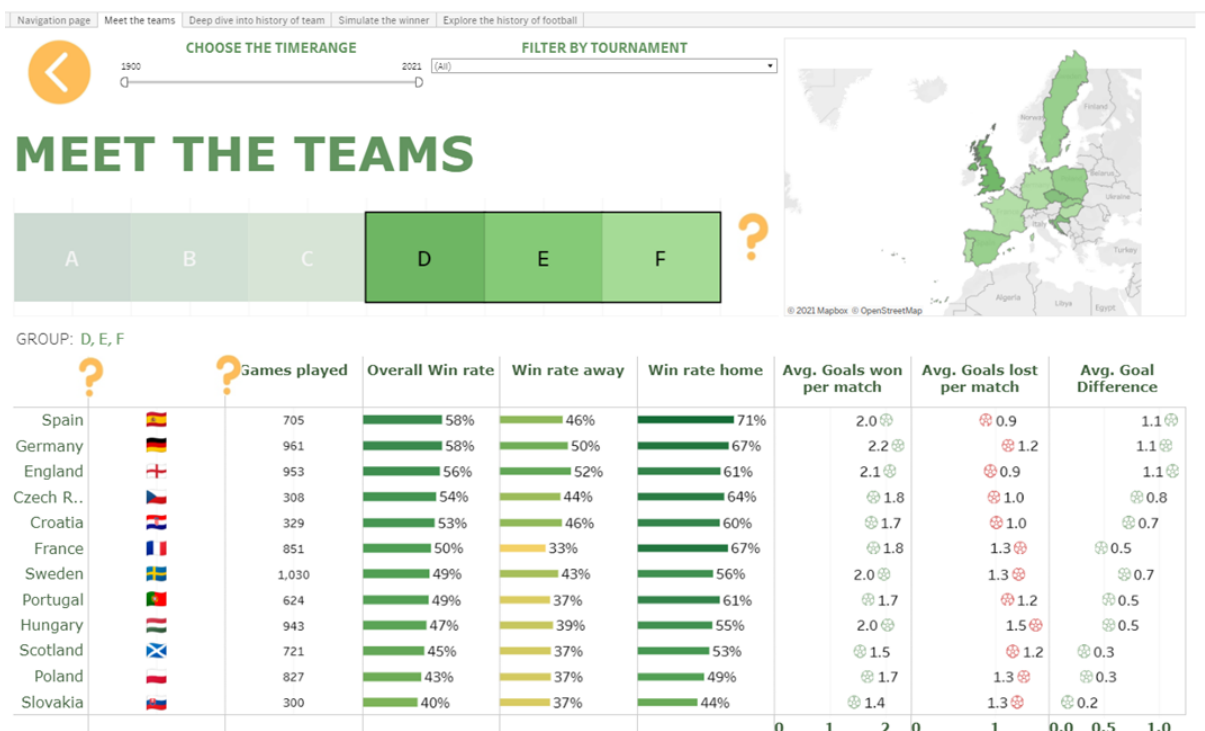## What can be done better

TRICKY charts
Example 5: Radial bar chart

A radial bar chart is basically a bar chart plotted in polar coordinates instead of a Cartesian plane. The only one good thing about this kind of graphic is that it is eye-catching.

It is difficult to use it in order to compare the results by length, because of the shape. The bar on the outside will always be longer by construction than the one on the inside, even with an equal value.

In this case, a traditional bar chart would work much better.

Top Takeaways
What can be done better

Overall COMPOSITION
Example 6 – Number of Dashboards

What we liked in Wacław Piekara's entry:
- That there is an introduction to the analysis, the visualizations by using which we can check the insights provided in the summary.
- There is a clear statement of the analysis.
- Key insights are described and can be easily verify by playing with the visualizations.
- Also, this is the only Tableau entry which is readable on mobile.

What could be improved?
The current dashboard set up misleads the users. The report consists of 3 separate tabs. When we read each of the 3 tabs separately, the impression is that each one is missing something – the purpose of the analysis or the visualization. This could be easily fixed if we had only 1 dashboard with clear composition.

Can we use FIFA ranking to predict EURO 2020 matches?

FIFA ranking rates all national teams which are members of international football federation FIFA. It is updated every month (with some exceptions) based on the matches results. The exact methodology is avaialble on the FIFA webpage (see sources below).

This report compares the matches results with the position of each team in a ranking before the match. It is not possible to compare the points in ranking since the methodology changed in 2018.

The analysis includes all matches played between european teams (UEFA federation members) between January 2010 and March 2021.

Main part of this report is a dashboard that summarises the analysis and allows to explore different views. Insights page summarises those findings and connects them with the upcoming tournament trying to answer the main question - can we actually use the ranking to predict the matches?

Dashboard 1
The thesis and goals

Dashboard 2
Visualization and key insights

Dashboard 3
The summary

Top Takeaways
What can be done better

Overall COMPOSITION
Example 7 – Data trap

Pavlo Novikov's work is great proof that he is a talented Tableau Developer. The technical side of the charts is really well done. Pavlo knows how to catch the eye. The first impression when seeing the visualizations is overall good. The colors are limited, and the contrast works well.

He put great effort into making this vizs customized, to feed the report with lot of additional sources.
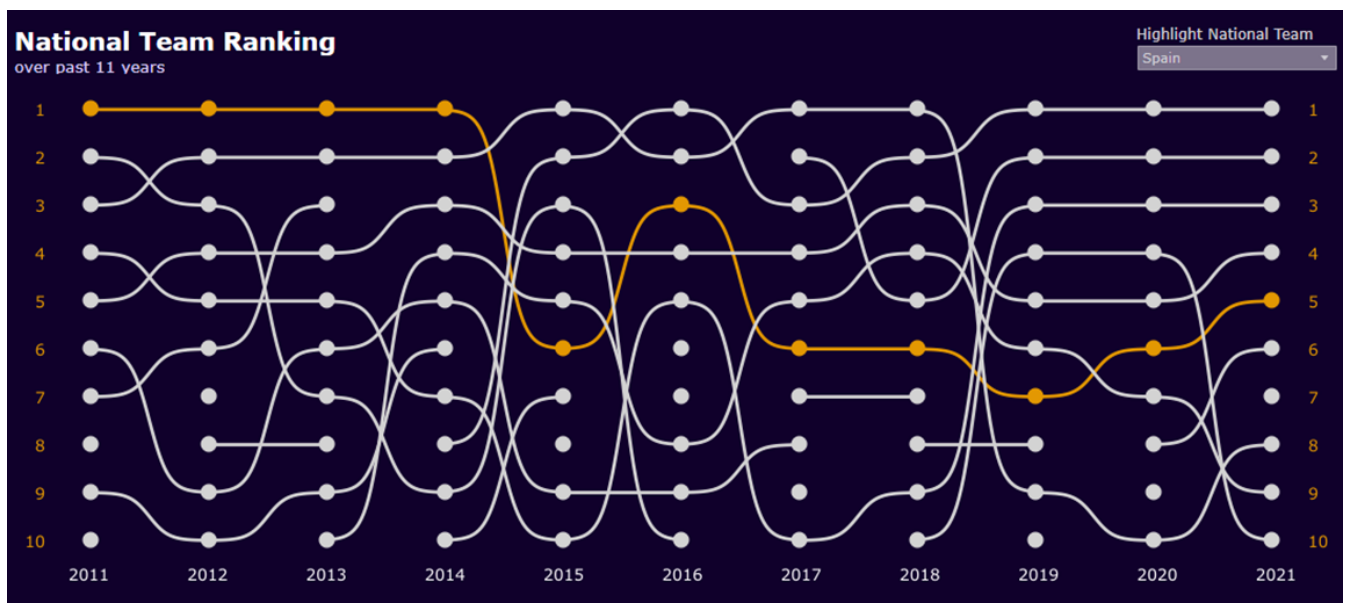
Pavlo fed the report with a lot of additional sources, including the history of red cards. We really appreciate that. However, when you got too many sources, you need to be more careful when selecting the visualization not to miss business consistency. Unfortunately, Pavlo went into too many – and fell into the data trap.

Very often less is more.

Overall COMPOSITION

Example 7 – Data trap (Cont.)

It would be very interesting to combine those data and check how they work together. To ask real business questions like - If gaining a goal or getting a red flag in the first 15 minutes affects the final result?
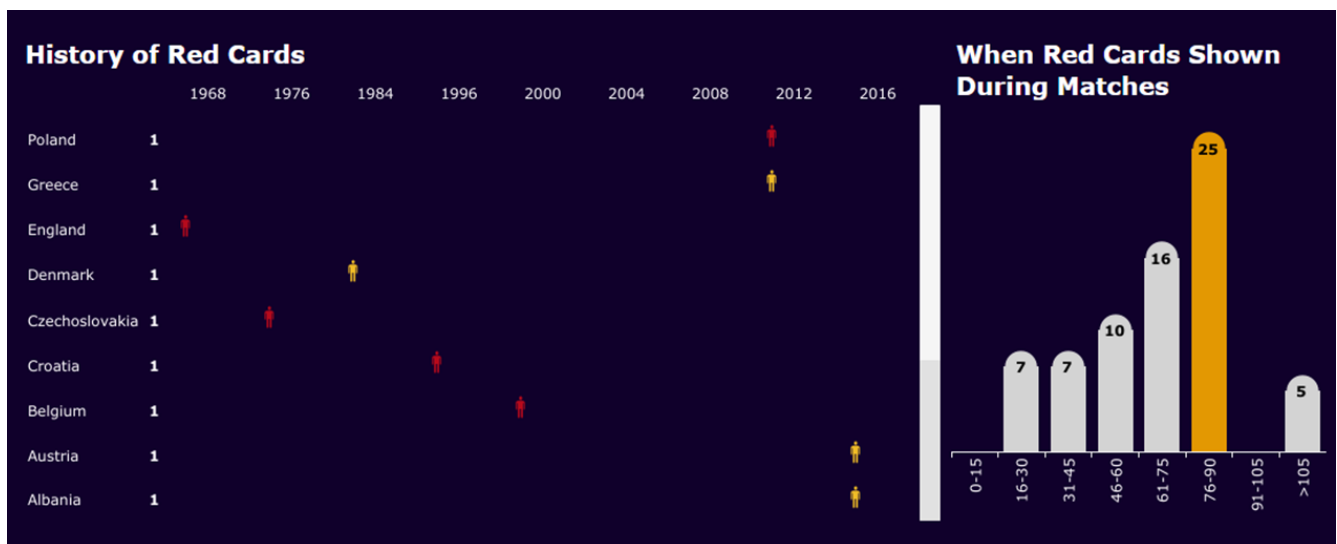
Instead of a clear dashboard, we got a dashboard with multiple vizs which are not so much connected to each other.
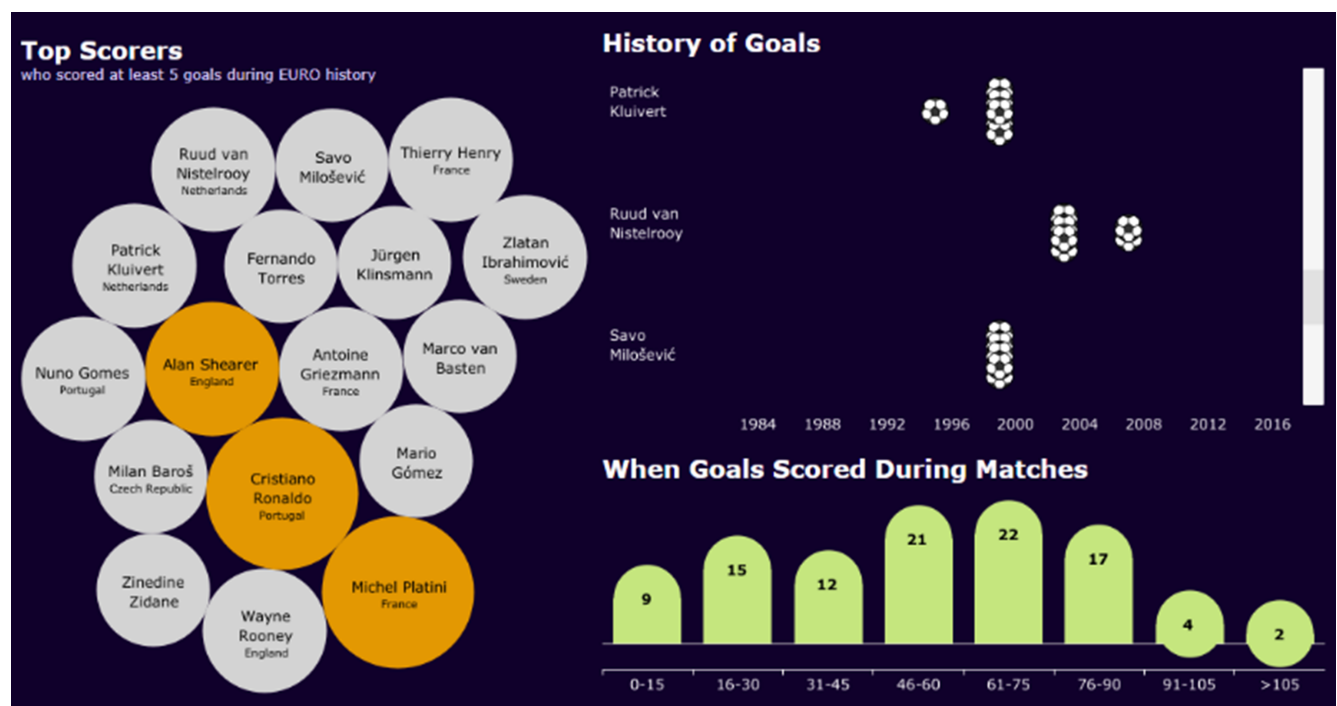

When seeing the chart „when Goals scored during matches" we don't know which goals were taken into consideration. All from the EURO Tournament? All from the database or just the goals in EURO gained by Top Scorers.

Overall COMPOSITION

Example 7 – Data trap (Cont.)

What match and what result is hidden behind the dot? It something wrong when we ask more questions like that. For the user it is too much work to explore, to recognize the subject of matter.
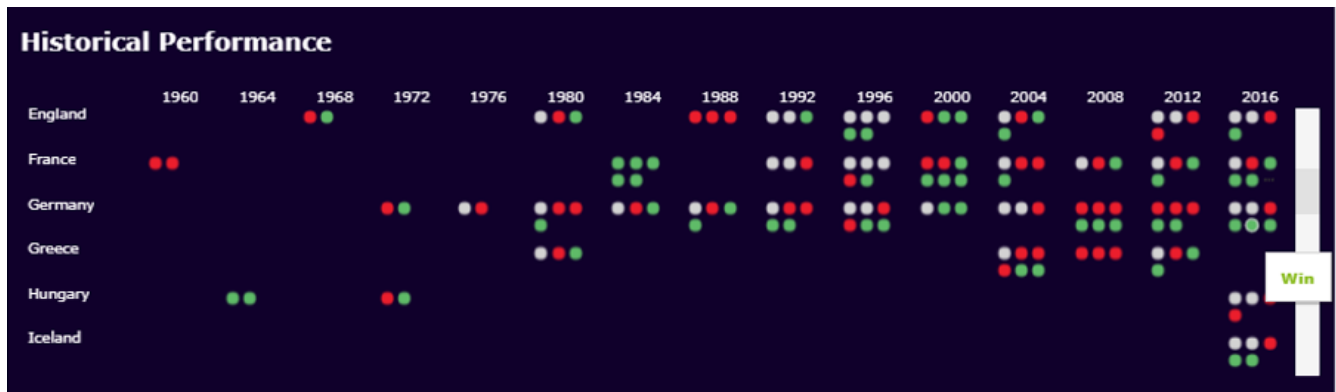
We really like this chart. However, always when creating visualizations, we need to be aware that some people do not recognize flags.

The second thing is that calculating probability of Draw does not make sense, as there are penalty shoots since Round 16.
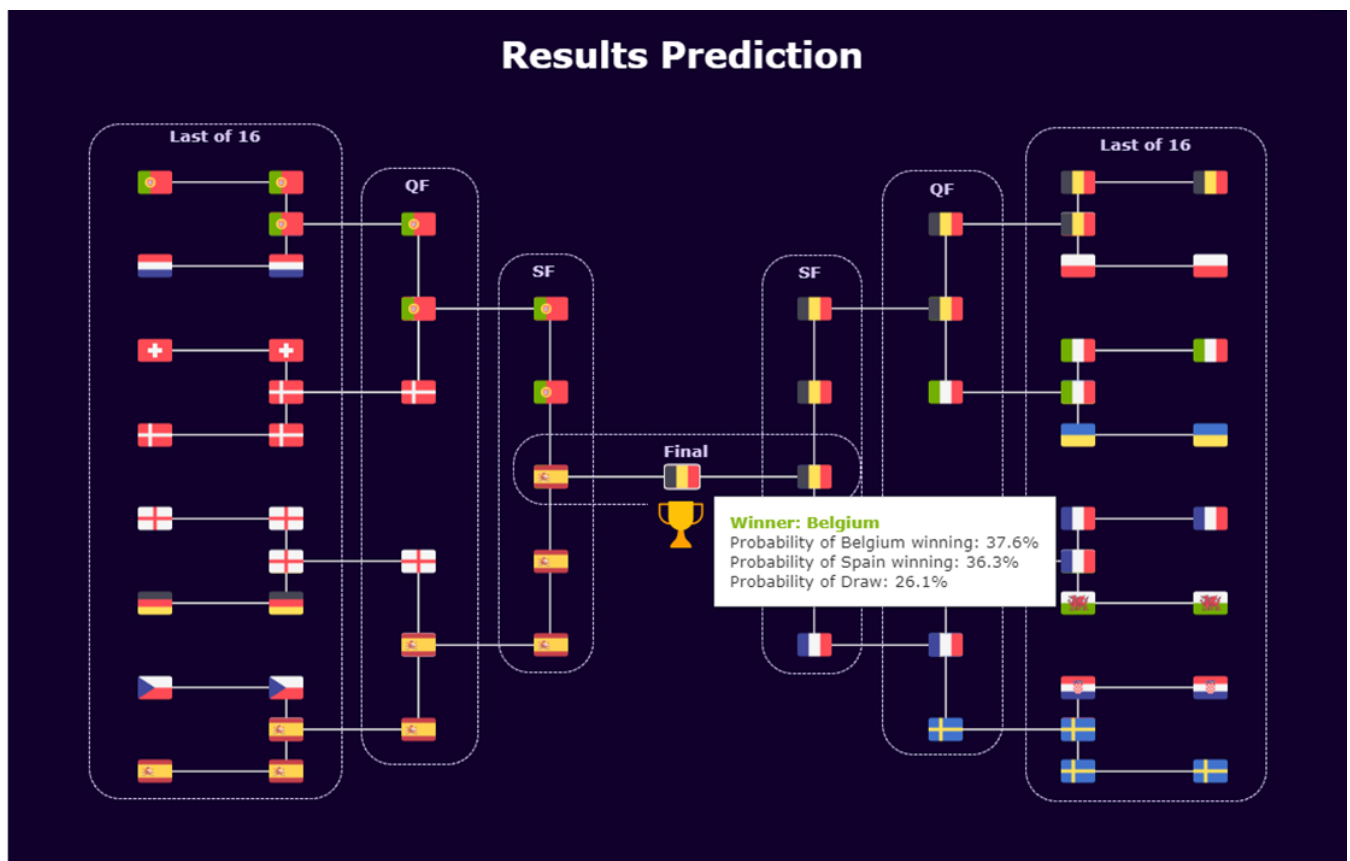
Pro tips for the next round

- The purpose of the analysis should be clearly communicated.

- Think about the audience – who will be the final user. What might her/his needs be?

- Adding insights and descriptions is beneficial for the final users.

- Remember, if something is wrong, then we ask more questions about thevreport itself than have answers, insights. Very often - LESS IS MORE.

- Be more focused on the composition and navigation.

- Be sure to keep a balance between the visualizations, text, and spaces – don't be afraid of using padding.

- Super important nowadays; most social media users choose mobile apps, so don't forget about mobile design.

- Testing. Before completing a data visualization, do not be afraid to ask someone to review it. If he/she will not be able to understand it, you probably have to make some adjustments.

- Choose your chart type wisely. **Here** is a good thought framework to use. When making a chart, think about what kind of questions you can ask and what kind of answers you can get.
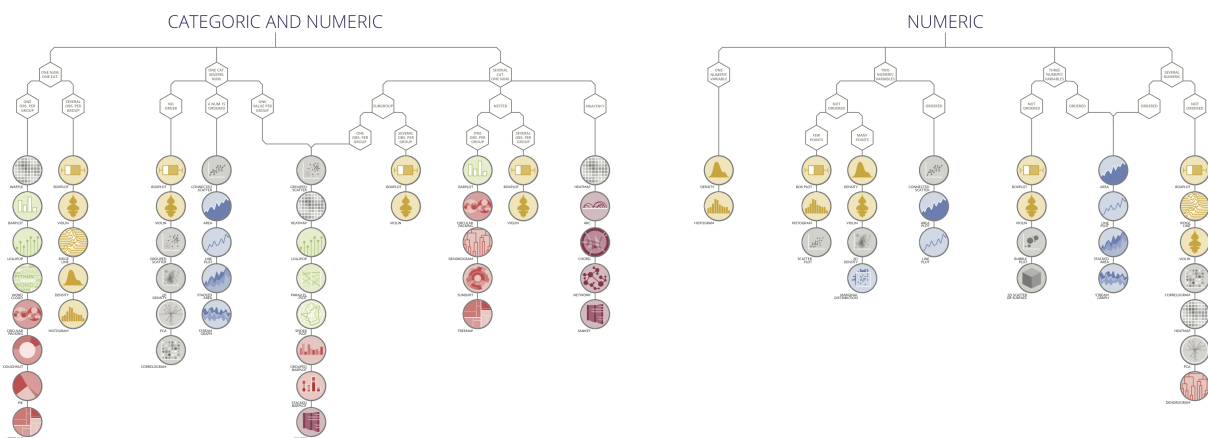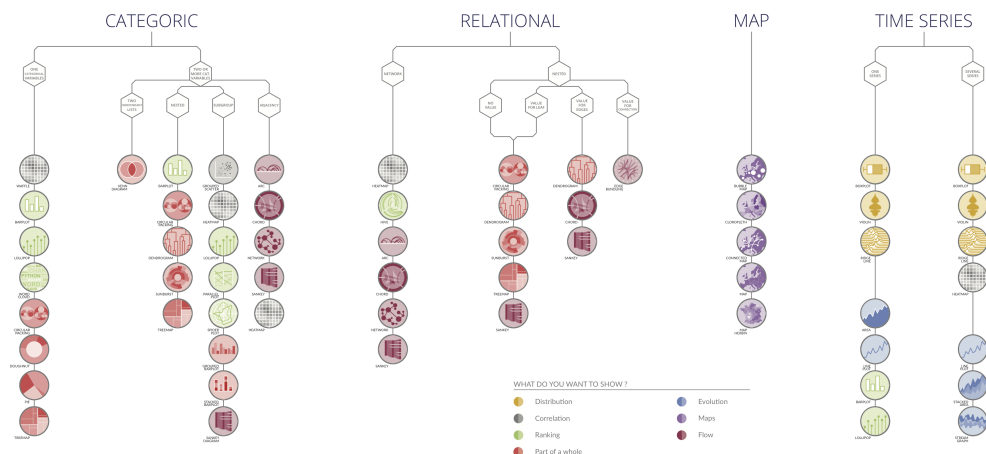

The picture comes from Yan Holtz Conor Healy

We hope you enjoyed this contest and viewing its results.