# Introduction

The introduction uses the Quality of Life index over time. This is the base for all other visualisations in the story. The values needed to be individually entered into an Excel sheet. However, this data source was the most complete for the most recent years and did use the Quality of Life index (and not e.g. human development index, which is closely related). The data source was retrieved from the following website: https://www.numbeo.com/quality-of-life/rankings\_by\_country.jsp?title=2020&displayColumn=0

# 1. Education

Visualisation 1: the Quality of Life versus the mean years of school 2019

This visualisation makes use of the same source mentioned in the introduction, however, now only the data for 2019 is used. Because the dataset of mean years of school is for 2019. The dataset was found at The world bank:

https://tcdata360.worldbank.org/indicators/h20c6a2fb?country=AUT&indicator=41393&countries=BLR,BEL,NLD, SWE,FIN&viz=line\_chart&years=2017,2019

The most recent year available, 2019, of this data is used, also because the data from 2017 and 2018 are equal for every country.

### Visualisation 2: the education level of the population (aged 15-64) with the Quality of Life

This visualisation also uses the base source, mentioned in the introduction. The years 2012 and 2019 are chosen to give a reasonable period of time to compare the educational level between. The data source is retrieved from Eurostat: <u>http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=edat\_lfse\_03&lang=en</u> The following data parts were downloaded in percentages: Less than primary, primary and lower secondary education; Upper secondary, secondary non-tertiary education; tertiary education. These 3 percentages add up to 100 for every country, therefore they could easily be implemented.

### Visualisation 3: the governmental spendings per sector ranked by the Quality of Life 2016

Also this visualisation uses the main source from the introduction, the year 2016. This year corresponds to the data source for the governmental spendings:

https://www.statista.com/statistics/238733/expenditure-on-education-by-country/

This data source was used because it distinguished between 3 different sectors which could add to the depth of the visualisation. Thereby, was the source still relatively recent and complete.

# 2. Politics

Visualisation 1: Presence and quality of public services per country [index from 0 (low) - 10 (high)] (PART 2: Quality of Life index per country with ranking)

For the quality of life index the same data source was used as stated in the introduction. 6 countries were selected for the years 2016 to 2019.

For the public services index in 2016 - 2019, the following data source was chosen: https://www.theglobaleconomy.com/compare-countries/

Visualisation 2: Correlation of freedom of speech, association, media and social group equality and its influence on the quality of life in different countries (2016-2018)

Voice and accountability from the following source. European countries and the index for voice and accountability were selected for downloading the source file:

https://databank.worldbank.org/source/worldwide-governance-indicators/

The Social group equality score was copied from displayed data for the years 2016 till 2018:

https://www.idea.int/gsod-indices/#/indices/world-map-table?attr=%5B%22SC\_02\_03\_a%22%5D

Visualisation 3: Politics and quality of life - Ranking of countries per category (2018)

The data for Civil liberties, Access to justice, Free political parties, social rights and equality comes from this data source. The website does not exactly display this data, however, the code book and the data source file gives a variety of data in relation to politics:

https://www.idea.int/gsod-indices/#/indices/world-map-table?attr=%5B%22SC\_02\_03\_a%22%5D +Code book: https://www.idea.int/gsod-indices/sites/default/files/idea-gsodi-2019-codebook-v3.pdf

Government effectiveness comes from the following source. European countries and the index for government effectiveness were selected for downloading the source file:

https://databank.worldbank.org/source/worldwide-governance-indicators/

For all data sources, the year 2018 was selected. The data was merged together to one file in the right format.

# 3. Security

Visualisation 1: CPI Score vs the Percentage of People who trust The Government, 2001-2019

This visualisation shows the correlation between the Corruption Perception Index (CPI) score, and the percentage of people that trust the government. The trust percentage is retrieved via this link: https://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/Chart/getChart/chartType/barChart//themeKy/18/gr oupKy/98/countries/EU/savFiles/54,179,555,47,6,11,554,880,895,2,5,521,632,702,867,37,8,663,698,805,33,41, 850,49,186,3,7,911,927,187,197,9,10,646,838/periodStart/042001/periodEnd/112019

It shows the results of a survey that was carried out regularly between 04/2001 and 11/2019. The trust percentage used is the percentage of people that claimed they 'tend to trust' the government of their country. The trust percentage is compared to the CPI score, which was found via this link:

https://www.transparency.org/en/cpi/. The years 2001-2019 have been used to match the other dataset.

Visualisation 2: Terrorist Attacks in Europe in the Past 50 Years and the Motivation Behind them, per Country, Ordered by Quality of Life (in brackets)

This visualisation was made using Flourish and shows the motivation behind terrorist attacks in Europe in the past 50 years. The data was found using the following link: <u>https://en.wikipedia.org/wiki/Terrorism\_in\_Europe</u> Only the attacks since 1970 have been used for the visualisation. The countries are ordered based on their most recent QOL score. These values are found using the base source, mentioned in the introduction.

Visualisation 3: Average Crime Rates vs the Average Quality of Life in Europe, 2012-2017

The last visualisation for security shows the average crime rates in Europe, along with the average QOL in Europe, from 2012 to 2017. The average values of the crime rates are taken from this site: <a href="https://www.theglobaleconomy.com/rankings/homicide\_rate/Europe/">https://www.theglobaleconomy.com/rankings/homicide\_rate/Europe/</a> The average QOL is calculated using the base source.

4. Health

Visualisation 1: Average Body Mass Index vs. QoL (years)

This visualisation compares the BMI of each country in Europe to the Quality of Life. This is done for the years 2012 to 2016. The average BMI of the countries was found via this link:

http://ncdrisc.org/bmi-mean-ranking-rural.html. This shows the BMI for several years. Only the ones relevant to the QoL are retrieved.

### Visualisation 2: Happiness Score and Depression Percentage per Country

The next visualisation takes a countries Happiness Score, which is a score out of 10, and compares it to the percentage of chronically depressed people of each country. The Happiness Score and the percentage of depression are retrieved from these links, respectively: <u>https://en.wikipedia.org/wiki/World\_Happiness\_Report</u> (2019) and <u>https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20181010-1</u> (2020).

### Visualisation 3: Life Expectancy and Global Health Security Index per Country

This visualisation graphs the Life Expectancy of a country, to which is the age a person is supposed to live - calculated at the birth year, and the Global Health Security. The latter is an index that gives countries a score based on their entire healthcare system. This contains healthcare expenditure and preparedness for an epidemic etc. The Life Expectancy and the GHS index are from the following links, respectively: <a href="https://databank.worldbank.org/source/jobs">https://databank.worldbank.org/source/jobs</a> (series: life expectancy at birth, female and life expectancy at birth, male, 2016) and <a href="https://www.ghsindex.org/">https://www.ghsindex.org/</a> (2019). Most recently available data sets are used.

# 5. Economy

### Visualisation 1: Percentage of unemployment adults and Quality of Life

This visualisation is also based on the Quality of Life, as mentioned in the introduction, using the most recent year, so 2019. The percentage of unemployed adult in an EU country was retrieved from eurostat: <a href="https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une\_rt\_m&lang=en">https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une\_rt\_m&lang=en</a>. This data clearly visualises an accurate percentage of unemployment in a country, so only including those that would otherwise be working.

### Visualisation 2: Percentage of Poverty and Quality of Life

Again, the Quality of Life was used, but this time comparing the oldest year available, which is 2012 and a recent year, 2018. To look at the poverty, Eurostat was used again, from: <u>https://ec.europa.eu/eurostat/tgm/table.do?tab=table&plugin=1&language=en&pcode=t2020\_50</u>. To percentage was chosen here, because this is a logical skill from 1 to 100 and not abstract numbers. This source was used, as it shows people "at risk", an important part of the population which must be included, as those people will also worry about their quality of life.

### Visualisation 3: Living Costs and Quality of Life

The same source was used for the Quality of life as for the Living Costs. This is because this source gave exactly the information which was needed to visualise the correlation between living and quality of life, but it was not visualised in the source. The most recent year, so 2019, was again visualised, as this is most valuable when trying to understand the Quality of Life today.