**Objective: To analyse tourist dynamics in Dublin City**

* Analyze broader city movements and usual dynamics
  + Daily, Week/Weekend, Yearly
* Statistics on peak hours, hotspots etc.
* Compare typical activity to time/place tourist events:
  + Tourist Attraction Locations Comparison e.g. Guinness Warehouse, TCD
  + Festival Event Comparison e.g. St. Patrick’s Day, Christmas Market
* Congestion Levels and City Building infrastructure
* Model tourist movements to predict future activity, identify areas of demand
* Crowd management at tourist events

**Data Collection**

* Use Data from SmartDublin (European Smart City) Dublinled Open Data
* Pedestrian Footfall DCC
  + <https://data.smartdublin.ie/dataset/dublin-city-centre-footfall-counters>
  + *“Pedestrian footfall counts of people at a number of locations in Dublin city. Passersby are counted and logged every hour, 24 hours per day, 7 days per week using a network of PYRO-Box people counters located throughout central Dublin. Data is provided by Dublin City Council and the NTA.”*
* Years 2016 – 2023 (Covid Lockdown 2020/2021)
* 2024, January to February
* Counter Locations csv, (Geomap, Heat Map…)

1. **Data Cleaning and Preparation**

* A lot of columns with IN/OUT, remove and focus on total footfall
* 1.1, Create function which removes IN and OUTs, can be applied to other Data Sets
* 1.2, Set Time Index
* 1.3 check for missing values
* 1.3.1 Overall missing values vs missing values on St.Patricks day
* 1.3.2 Visualizing sensor locations and theyre removal from analysis
* \*\*1.3.2.1\*\* Removing 4 counters
* 1.3.3 Visualize counter locations with Plotly
* 1.3.4 Automark counter locations with green purple red