

Digital Tourism Strategic Roadmap 2030

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CHIEF INFORMATION OFFICER
Ministry for Tourism





Scope of a Digital Plan



RECOVER, RETHINK, REVITALISE



13 STRATEGIC CHALLENGES



TO STRATEGICALLY DEVELOP A
DIGITALISATION ROADMAP



DESTINATION WITH A LEADING
DIGITAL PRODUCT

Areas of Focus



Assisting tourism industry to invest in the digital product



Skilling and upskilling of the human resource



Enhancing the digital experience towards personalised itineraries



Investment in technology and data infrastructure



Cross collaboration with stakeholders



Developing research and innovation



More than
40 initiatives

TIMELINE OF IMPLEMENTATION TILL 2030

Areas of Collaboration



Synergy in developing machine readable open datasets and API's incl. Tourism data portal



Set up governance framework for progress, tourism tech forum, & yearly barometer study



Incentives incl. setting up of sustainable structure to support digital transformation



Develop new technology-enabled niche markets in specific areas such as Travel Tech and Sustainable Tourism



Creation of mobility as a service – itinerary planning, booking, ticketing, etc



Set up an experiential tourism lab for innovation & organise travel tech hackathons

Approach to Develop



**ENABLER OF TOURISM
STRATEGY**



UNCERTAINTY FACTORS



NEED FOR FLEXIBILITY



**MIX OF TOP-DOWN AND
BOTTOM-UP APPROACHES**



**AIM - INNOVATION AS A
MEANS TO ENHANCE THE
VISITOR EXPERIENCE**



**ENABLING DOCUMENT
FOR INVESTMENT**



**COLLABORATIVE WORKING
DOCUMENT**

Collaborative Approach



PRIVATE SECTOR & NGOS

Use Case – AI Litter Detection

- Cleansing & Maintenance Division is responsible for providing cleansing and maintenance of Public Space in Malta
- The Division collects thousands of tonnes of waste, deploying over one hundred employees to deal with the task using trucks and other heavy plant machinery and other heavy plant machinery.
- When refuse is located in hard to access places sometimes the Division has to resort to special equipment and methods such as abseiling, or request the support of Civil Protection which is costly and time consuming.



Use Case – AI Litter Detection

Satellite image vs. Image on site



San Gwann carpark clean up 21.11.2021 (indicative coordinates 35.90542342533764, 14.475628984816506)



Use Case – AI Litter Detection

The screenshot displays a Microsoft Azure Machine Learning Studio interface during a meeting. The notebook is titled "dataset.ipynb" and is running on a "shimas-cpu" compute target. The code in the notebook is as follows:

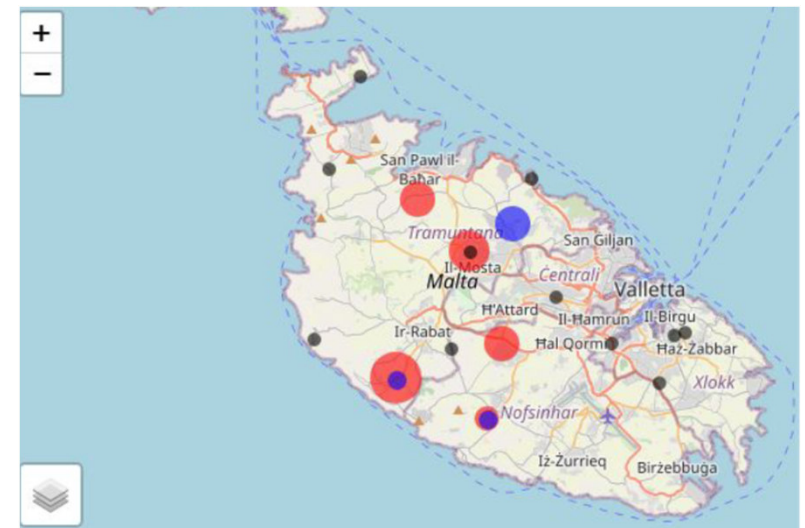
```
1 mean = []
2
3 for fp in tqdm(glob.glob("data/label/*.tif")):
4     img = Image.open(fp)
5     mean.append(np.array(img).mean())
[17] ✓ 1 min 9 sec
100% 1895/1895 [01:08-00:00, 28.07/s]
+ Code + Markdown
1 np.percentile(np.array(mean), [1, 5, 10, 15, 25, 50])
✓ <1 sec
array([40.25394572, 48.69507446, 52.47521973, 55.33907064, 59.60954793,
       67.36531576])
+ Code + Markdown
1 TARGET_DIR = "data/train/images"
2 os.makedirs(TARGET_DIR, exist_ok=True)
[60] ✓ <1 sec
1 for fp in tqdm(glob.glob("data/label/*.tif")):
```

The notebook output shows a progress bar for the first cell, which is 100% complete. The second cell shows the output of the `np.percentile` function, which is an array of values. The third cell shows the output of the `os.makedirs` function, which is a confirmation message. The fourth cell shows the start of a loop that iterates over the files in the `data/label` directory.

The interface also shows a sidebar with a file explorer, a top navigation bar with "Request control" and "Leave" buttons, and a meeting window at the top with four participants. The bottom of the screen shows a macOS dock with various application icons.

Use Case – AI Litter Detection

- **Quantify** and therefore **better plan** cleansing of refuse in the various locations covered
- Collect as much **real time data** as possible
- **Integrate functionality** with currently deployed apps – Clean and Upkeep
- Identify the **exact location** of refuse and map out exactly where to cleanse
- **Optimise routes for teams** and number of trucks to be deployed





Thank You!

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