

Part III APIs And Their Use for DMOs

 Austrian National
Tourist Office
www.tourmis.info



17th TourMIS Workshop

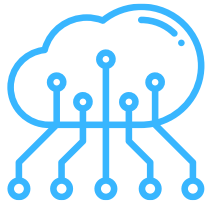
September 8, 2022

Travel APIs

TourMIS Workshop 2022



Today's agenda



What is an API?



The 'Travel API' project



Real cases



Coming up...

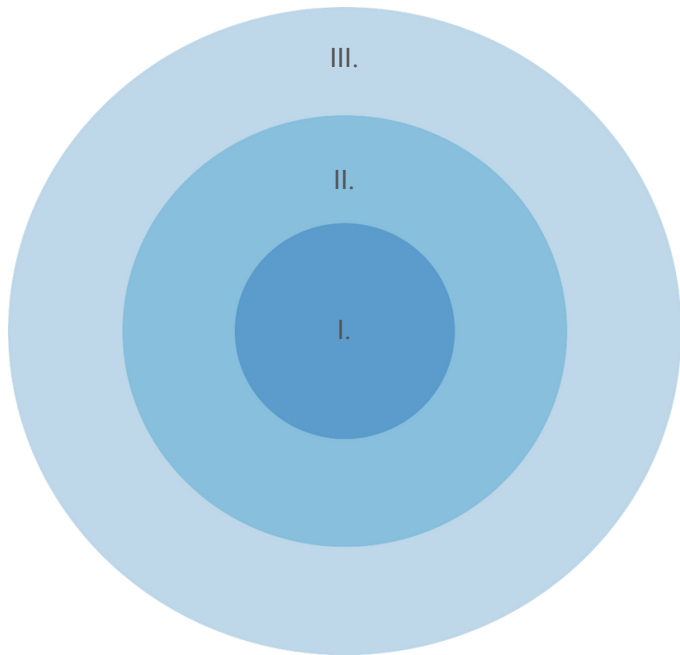
Restaurant analogy



Underlying rationale

“Just because you can,
doesn't mean you should”

Current priorities of DMOs



Understand visitors

I. Support stakeholders

Push sustainability

Monitor demand development

II. Measure DMO's effect(iveness)

Measure tourism impact

III. Evaluate marketing

INCOMING

OUTGOING

Hotel performance
(ADR, OCC%, RevPAR)

Tourism statistics
(arrivals, bednights)

Visitor experience
(surveys, reviews)

Flights & Airports
(bookings, arrivals)

Expenditure
(CCs, BBVA, Worldline)

Sights & Attractions
(Patchwork)

Mobility
(Mobile, Google, GPS)



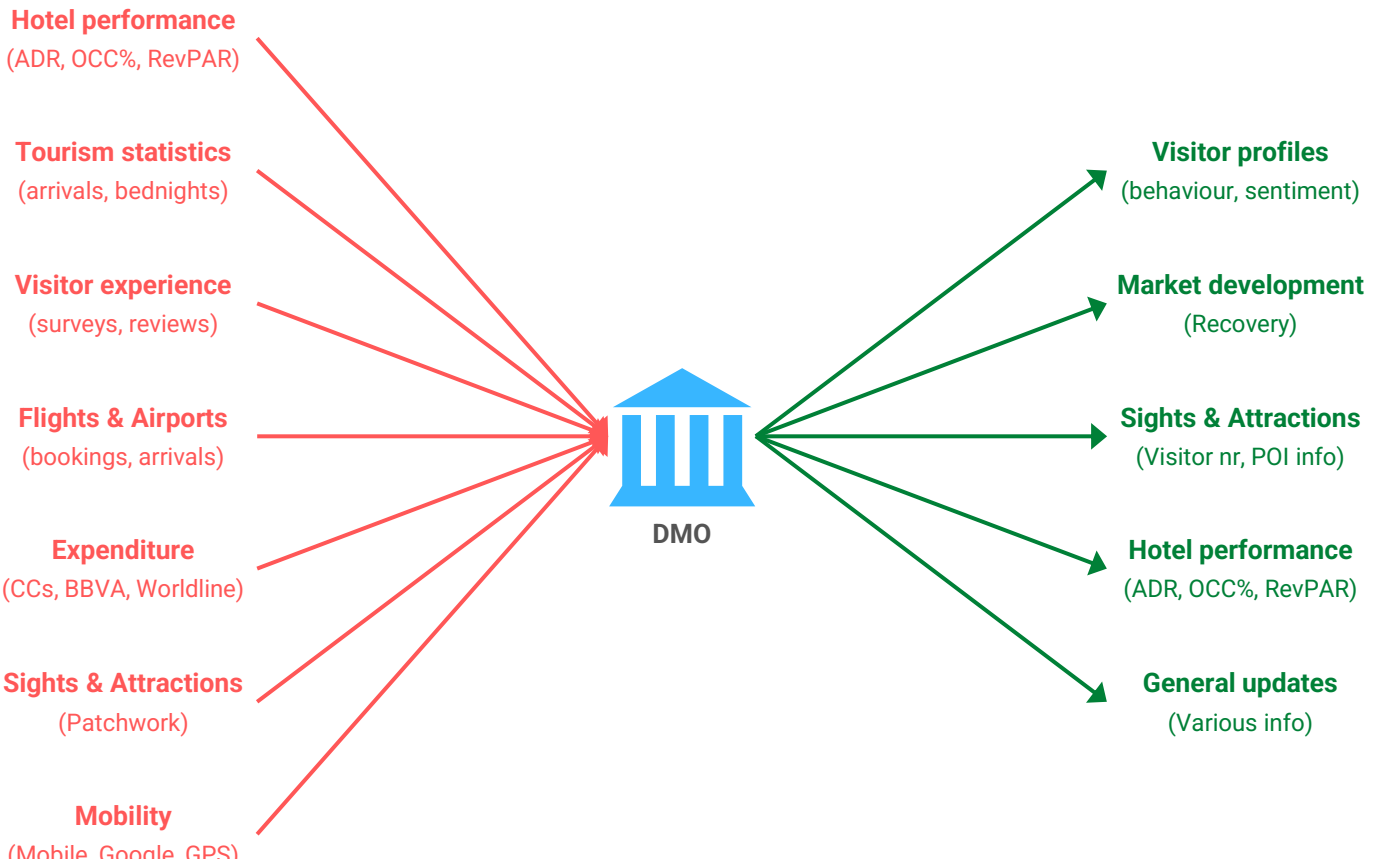
Visitor profiles
(behaviour, sentiment)

Market development
(Recovery)

Sights & Attractions
(Visitor nr, POI info)

Hotel performance
(ADR, OCC%, RevPAR)

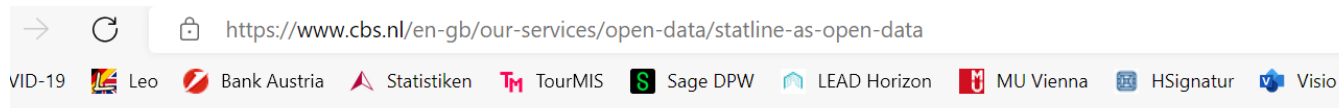
General updates
(Various info)



Use of APIs by the Vienna Tourism Board

APIs used and offered by TourMIS

API used by TourMIS: e.g. CBS (Statistics NL)



StatLine as open data

All datasets in StatLine are available as open data. By using a web service (API) the most recent versions of datasets available in StatLine can be retrieved. The machine-readable format of open data ensures that users can process data from Statistics Netherlands automatically.

Share this page



CBS data portal

Datasets from StatLine can be found in the [data portal](#). This portal lists all available datasets by theme and also makes it possible for users to search by keywords. Each dataset includes a brief description as well as links to web services where the data can be retrieved. The portal also links to the corresponding dataset in StatLine.

Web services

The web services offer all statistical data from StatLine in a machine-readable format. Statistics Netherlands offers three types of web services.

- The [Catalog service](#) provides overviews of datasets, for example to generate a list with information about [all available datasets](#).
- The [standard API](#) is intended for direct use, e.g. when placing a chart on a website. The service is intended for quick retrieval of a limited amount of data. Retrieval of data is restricted to a maximum of 10,000 cells at one time.
- The [Feed](#) is intended for indirect use, e.g. for downloading large quantities of data for



CBS API Syntax

[https://opendata.cbs.nl/ODataFeed/odata/82061NED/TypedDataSet?\\$filter=substringof\('2022',Perioden\) and RegioS eq 'GM0363'](https://opendata.cbs.nl/ODataFeed/odata/82061NED/TypedDataSet?$filter=substringof('2022',Perioden) and RegioS eq 'GM0363')

82061 = Arrivals and overnights in hotels and similar establishments

82059 = Arrivals and overnights in all forms of paid accommodation

RegioS: GM0394 = Haarlemmermeer; GM0518 = The Hague; GM0935 = Maastricht; GM0599 = Rotterdam; GM0344 = Utrecht; GM0363 = Amsterdam; NL01 = Netherlands

CBS API Result

T001047 => Total Foreign and Domestic

B000069 => Total Foreign

L008592 => Germany

L008552 => Belgium

L008605 => France

```
...
-<content type="application/xml">
  -<m:properties>
    <d:ID m:type="Edm.Int32">4287</d:ID>
    <d:WoonlandVanGasten>T001047</d:WoonlandVanGasten>
    <d:RegioS>GM0363</d:RegioS>
    <d:Perioden>2022MM01</d:Perioden>
    <d:Gasten_1 m:type="Edm.Int32">124</d:Gasten_1>
    <d:Overnachtingen_2 m:type="Edm.Int32">236</d:Overnachtingen_2>
  </m:properties>
</content>
```

Amsterdam

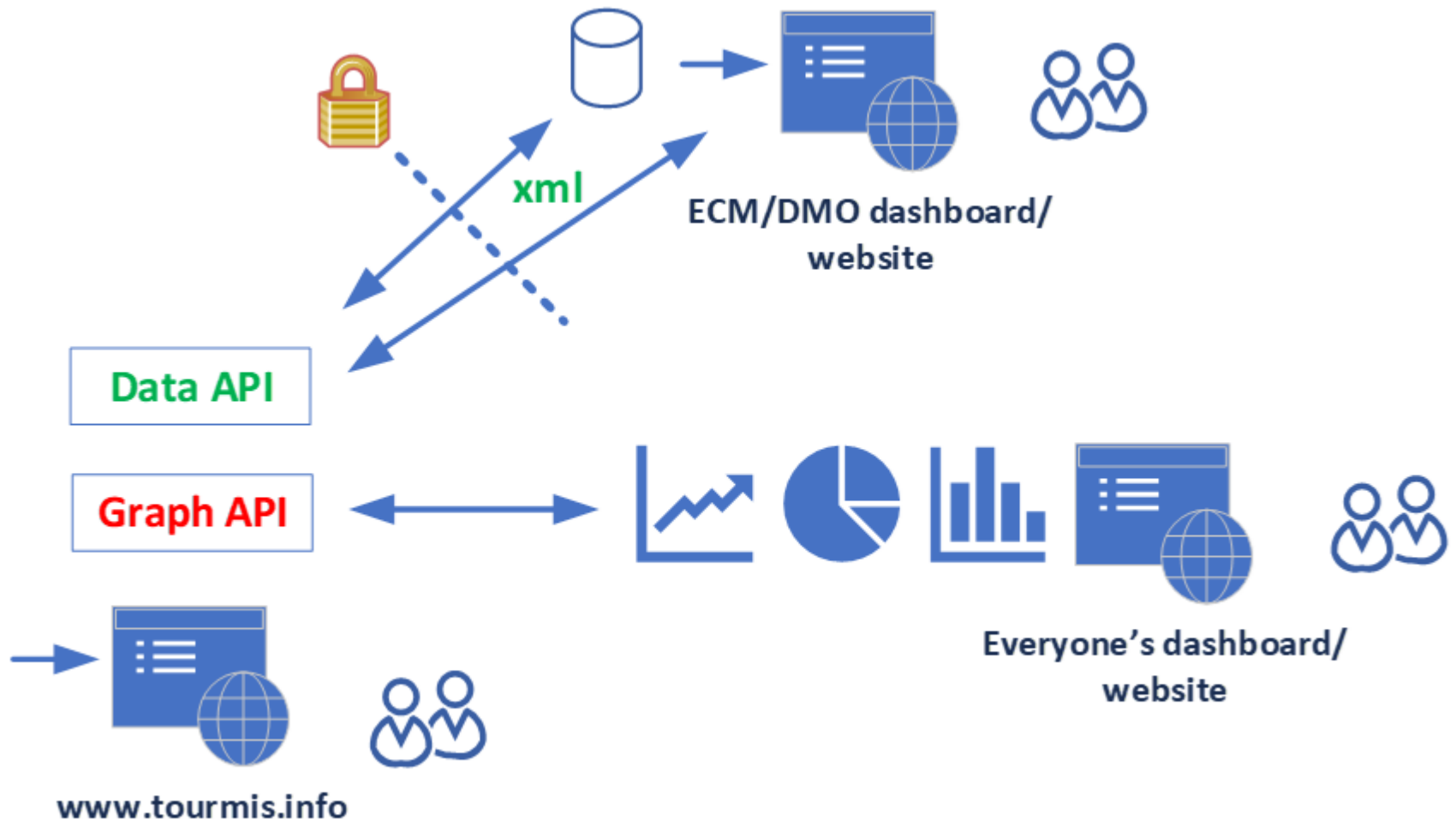
Jan 2022

= Arrivals

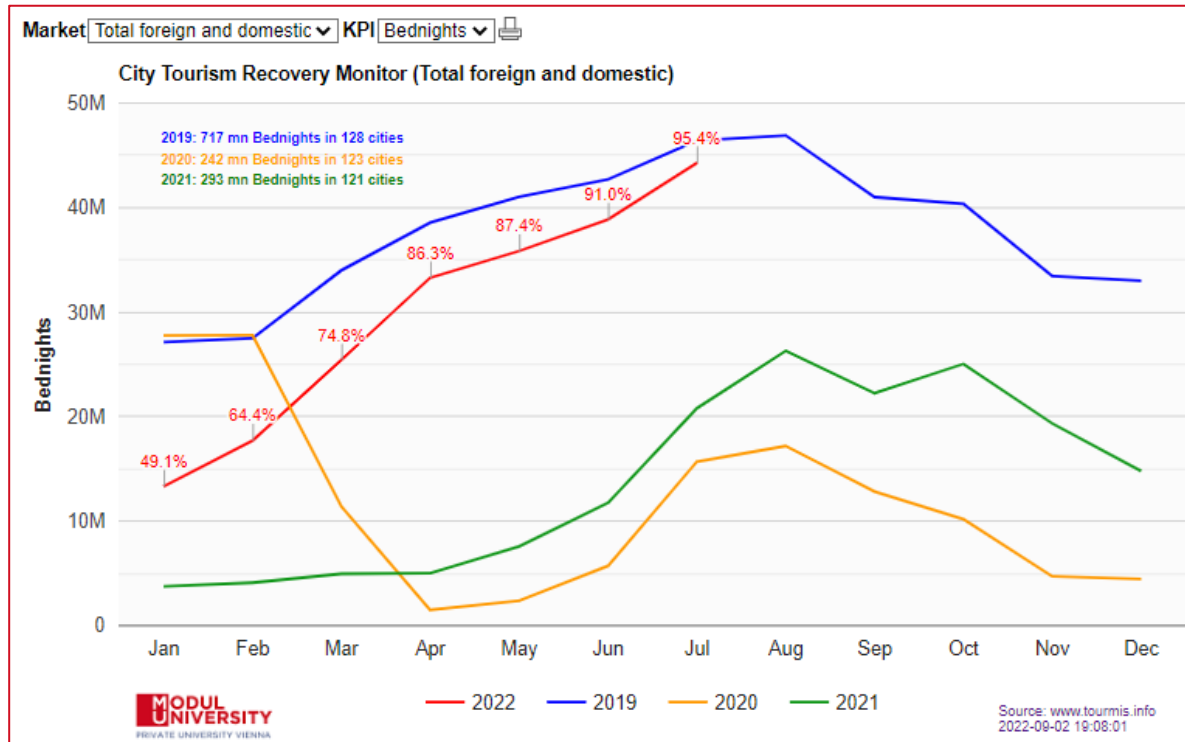
= Bednights



Two types of APIs offered by TourMIS



Graph API: Embedded graphs (iframe)



Example: City Destinations Alliance [Website](#)

New TourMIS data API

- The TourMIS Application Programming Interface (API) offers digital bulk download services to www.tourmis.info
- Communicates in Extensible Markup Language (XML)
- All previous TourMIS APIs have been suspended as of June 1, 2022
- Restricted Access: Access to the TourMIS database via the API <https://www.tourmis.info/api.pl> requires a previous login with specific access rights. It is a two-stage process:
 1. Transmission of login data and receipt of a **token** (= string of random characters) in xml format. The token allows to make multiple queries to the TourMIS database within a certain time limit. After the expiry of a token a new token must be requested.
 2. Submitting a complete data query and receiving the requested data in xml format

New TourMIS data API

- Access for TourMIS data inputters only
- Inform support@tourmis.info about your user-id and request access to the TourMIS API
- After you have received a confirmation mail that you have been granted access, you can start using the API. To test the API, use following URL:

<https://www.tourmis.info/api.pl?id=xxxxxxx&pw=xxxxxxx>

- replace the yellow part with your TourMIS ID and password. If the ID and the password is correct AND you have been granted access to the API, you will receive a **token**, random string of characters.

```
▼<TourMIS-API version="1.0" timestamp="2022-01-07 17:06:28 +0200">
  ▼<results>
    <token>820EA3A7-69B1-41CD-A99C-C75033DC17A3</token>
  </results>
</TourMIS-API>
```

- For **three minutes**, the token will allow you to send queries to the TourMIS database

New TourMIS data API

- A simple query looks like this:

<https://www.tourmis.info/api.pl?d=CPH&c=NG&m=AT&y=2019&token=BE1AD8C4-AFF5-404F-ABD4-16172E186819>

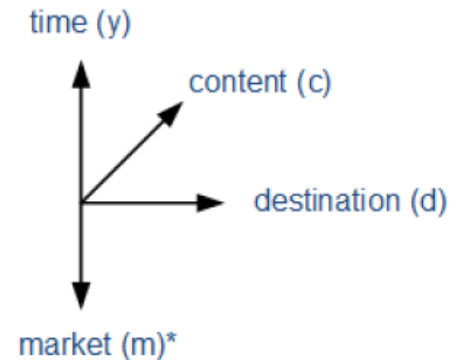
- Each API query consists of the basic URL, parameters, and the token:
 - Basic URL: <https://www.tourmis.info/api.pl?>
 - Parameters: [d=CPH&c=NG&m=AT&y=2019](#)
 - Token = special parameter: [token=BE1AD8C4-AFF5-404F-ABD4-16172E186819](#)
- A valid token must be included in each query, otherwise you receive a message that the token is missing:

```
▼<TourMIS-API version="1.0" timestamp="2022-01-07 17:43:06 +0200">
  ▼<results>
    <error>Token missing</error>
  </results>
</TourMIS-API>
```

- If the token has expired, you will receive the message “Token invalid”:

```
▼<TourMIS-API version="1.0" timestamp="2022-01-07 17:55:57 +0200">
  ▼<results>
    <error>Token invalid</error>
  </results>
</TourMIS-API>
```

New TourMIS data API



- Parameters are all separated with the & symbol, for example:

`d=CPH&c=NG&m=AT&y=2019`

- For the above query, the API delivers a result of following structure:

```
▼<TourMIS-API version="1.0" timestamp="2022-01-08 14:01:54 +0200">
  ▼<results>
    ▶<query>
      ...
    </query>
    ▶<notes>
      ...
    </notes>
    ▶<alldata>
      ...
    </alldata>
  </results>
</TourMIS-API>
```

- Query: Returns all parameters entered by the user, resolves array parameters and removes duplicates, if necessary.
- Notes: Returns all notes, meta information entered by users (data inputters) into the TourMIS database, associated with the query.

New TourMIS data API

- Alldata: Returns all data (observations) defined by the query. The format of the section <data> depends on the value of the parameter periodicity (p). If data does not exist, the field <value> is empty. The <determination>, <content>, <market>, and <year> fields describe the observation.

```
▼<TourMIS-API version="1.0" timestamp="2022-01-08 14:01:54 +0200">
  ▼<results>
    ▶<query>
      ...
    </query>
    ▶<notes>
      ...
    </notes>
    ▼<alldata>
      ▼<data>
        <destination>CPH</destination>
        <content>NG</content>
        <market>AT</market>
        <year>2019</year>
        <value>58724</value>
        <value month="1">2514</value>
        <value month="2">3150</value>
        <value month="3">3065</value>
        <value month="4">6252</value>
        <value month="5">5741</value>
        <value month="6">6117</value>
        <value month="7">7598</value>
        <value month="8">8371</value>
        <value month="9">5180</value>
        <value month="10">4009</value>
        <value month="11">3514</value>
        <value month="12">3213</value>
      </data>
    </alldata>
  </results>
</TourMIS-API>
```

New TourMIS data API

- The API can handle multiple expressions per parameter, which means that large amounts of data can be processed with one query.
- If, for example, you want to query data from several destinations at the same time, you concatenate the codes by means of a colon character, e.g.

`d=CPH:VIE:AMS`

- This is also possible for content, markets, or years. In the latter case, periods can also be defined in the format start – end year, e.g. 2011-2020, which automatically selects 10 years of data, or 2015:2018-2020, which selects the years 2015, 2018, 2019, and 2020.
- For markets, special codes can be used for retrieving all markets available in the TourMIS database, e.g.

`m=*ETC`

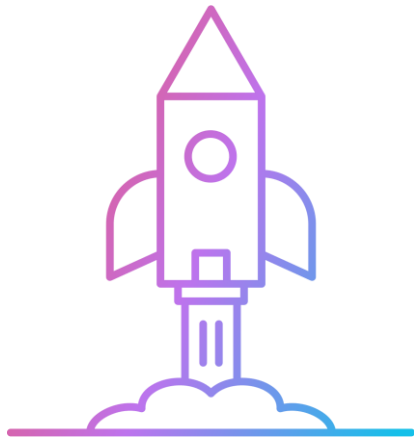
returns data for all markets and is equivalent to:

`m=AFR:AME:AR:ASI:AT:AU:BE:BG:BH:BR:BY:CA:CH:CHINA:CY:CZ:DE:DK:EE:EG:ES:ET
CUAFR:ETCUAME:ETCUASI:ETCUEUR:ETCUEUR:EUR:FI:FR:GE:GR:HR:HU:IE:IL:IN:IS:I
T:JP:KR:LI:LT:LU:LV:MA:MC:ME:MT:MX:NL:NO:NZ:OZE:PL:PT:RO:RS:RU:SAFR:SAR:SE
:SI:SK:SM:TH:TR:TW:UA:UAE:UK:US:ZA:ZI:ZZ`

New TourMIS data API

A complete list of all codes of parameters, more information and examples for data queries are included in the
TourMIS API Manual

Example how TourMIS data API is used by Amsterdam & Partners



We are going to launch a brand-new
knowledge base about Travel APIs... and
to feed this repository, **we need you!**



Your contribution will consist of a **short interview** about your experience of working with a particular API.



Your case study will then be shared among CityDNA members, so that fellow peers will have the chance to **learn from each other!**



If you would like to learn more
about our initiative, send an email
to sebastian.ferrari@modul.ac.at
by scanning this **QR code!**