



Practice Abstract 4 - Farmtopia Data Integration Module

Summary for practitioners

Problem:

There are already available numerous digital services and data sources aiming to support farmers and advisor on decision making for every day farming tasks. In many cases, these services are offered under low-cost subscription schemes (or even free for limited usage), however they remain significantly under-exploited.

Solution:

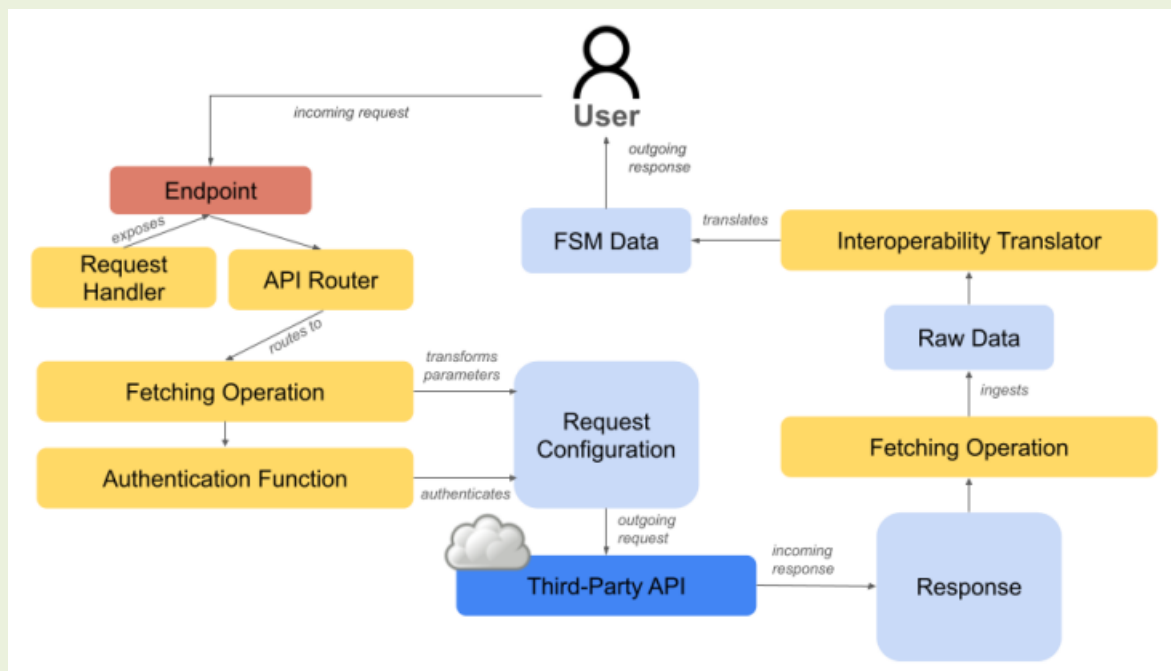
The Farmtopia Data Integration Module supports data ingestion from a predefined -but extendable- list of providers encompassing point-based sensor data to large-scale satellite imagery. Specifically, it integrates and makes available through a standardized API and semantics: weather data forecast, earth observation data products and infestation predictions for selected pests and diseases.

Practical Recommendations:

The Farmtopia Data Integration Module is offered as an easy to download and install software component (following EUPL scheme). SMEs and AgTech providers can kick start their projects without reimplementing from scratch basic functionalities supporting the development of cost-effective ADSs.

Future Development

Future updates will integrate additional data sources, weather services from [ECMWF](#) and satellite based Earth Observation data products.



Functional architecture diagram of the Data Integration Module

The screenshot displays the Swagger API documentation for the Farmtopia Data Integration Module. On the left, a sidebar shows a search bar and a list of API endpoints: 'surface' (selected), 'atmosphere', and 'biosphere'. The 'surface' endpoint is expanded, showing a GET request for 'Satellite observation data for surface composite index'. The main area displays the query parameters for this endpoint, including 'property' (string, required), 'spatial' (string, required), 'from' (integer, required), 'to' (integer, required), and 'interval' (integer, required). The 'property' parameter is further detailed with an Enum of 'ndwi', 'evi', 'ndwi_wc', 'ndwi_wb', and 'str', and a list of 'vb_polarization' values. The 'spatial' parameter is detailed with an example of a WKT string corresponding to a region polygon. The 'from' and 'to' parameters are detailed with examples of UNIX timestamps. The 'interval' parameter is detailed with an example of an interval value. On the right, a 'Response samples' section shows a 200 status code and a JSON response sample. The JSON response includes fields for 'context', 'fsm', 'geometry', 'geoJson', 'layer', 'location', 'sliceContents', 'datasetSlices', 'NDVI', and 'base'.

Farmtopia Data Integration Module's API (Swagger)

Further information

- Access detailed documentation, integration guides, and support at [GitLab Link](#). Resources include tutorials and best practices to maximize the module's utility.
- GREEN SUPPLY CHAIN DIGITAL INNOVATION HUB, Greek Office, Paramithias 39, Athens 104 35 Greece. Contact: info@greensupplychain.gr

About this Practice Abstract and Farmtopia

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Farmtopia: The project is running from September 2023 to August 2026. The overall goal of Farmtopia (**GA No.: 101083541**) is to democratize digital farming to empower small and medium farms.

Website: <https://farmtopia.eu/>

Green Supply Chain: As part of the Farmtopia project, Green Supply Chain is the leader of work package 2 (WP2) “Business and Governance Models”, and it will co-develop a Technology Code of Conduct.

Website: <https://www.greensupplychain.eu/>

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