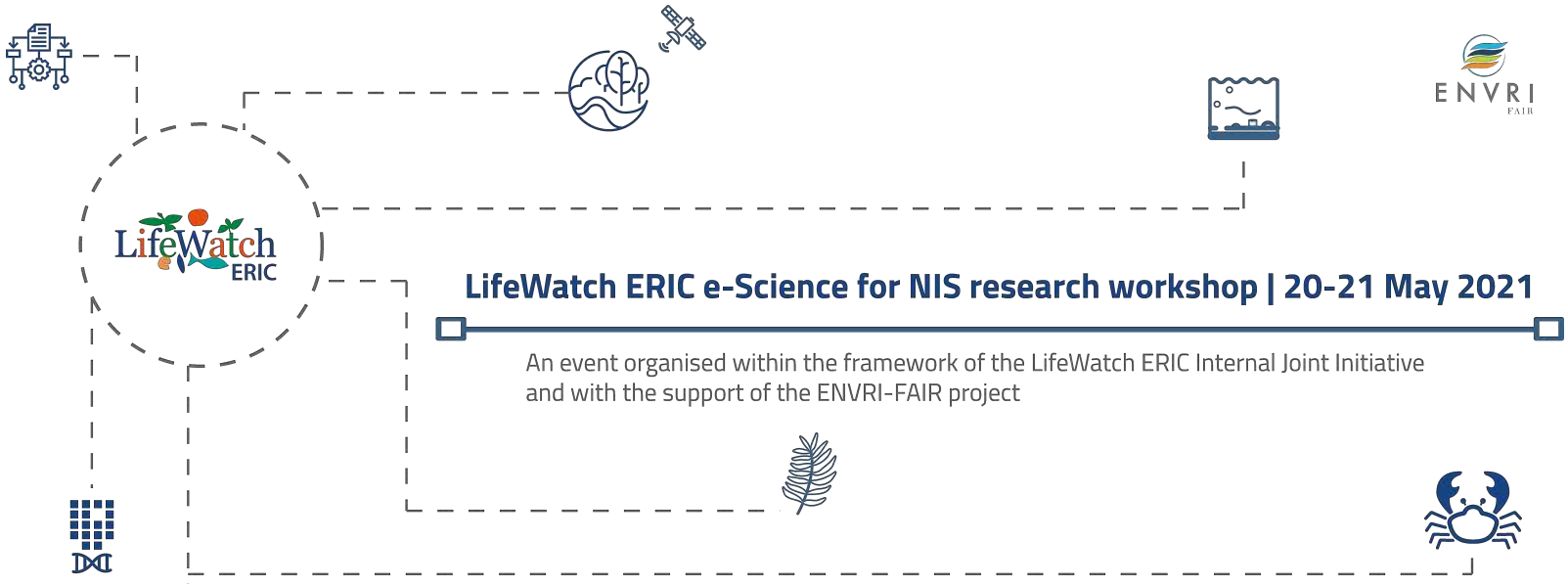


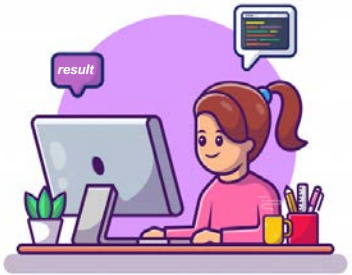
Towards new user-friendly interfaces

LifeWatch ERIC

Lucia Vaira | LifeWatch ERIC Service Centre

The importance of user-friendly interfaces

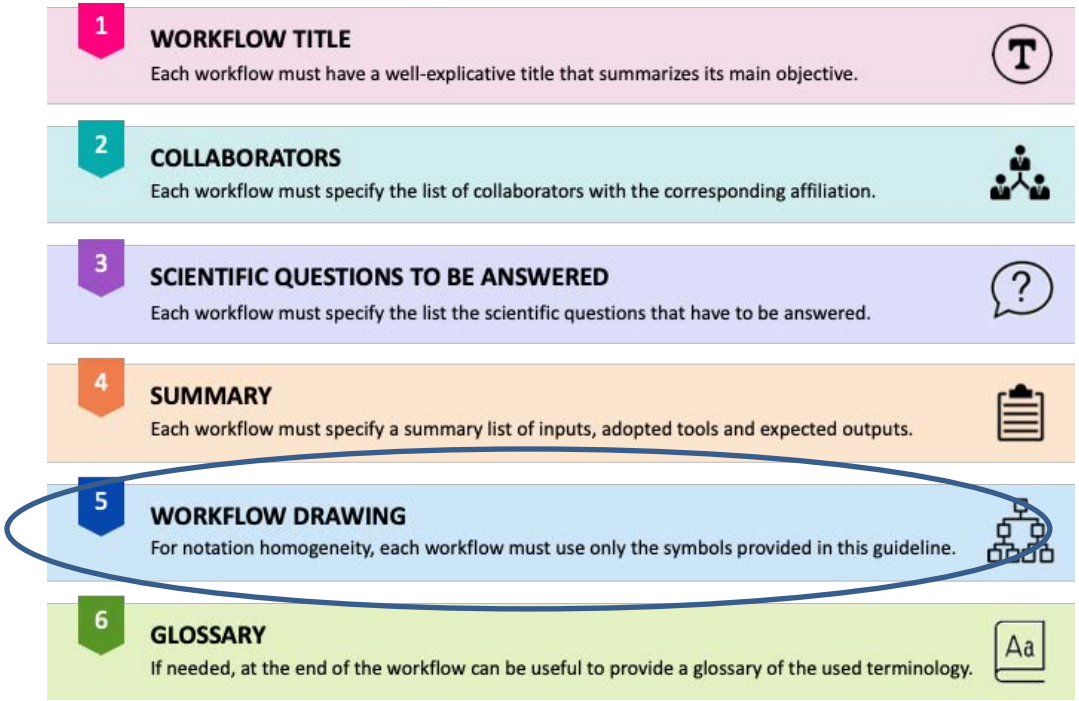
- Having a user-friendly interface is important to give users the best user experience. If they enjoy using the specific application, they will keep coming back
- For scientists of our community, it is very important to make their work easier, make results clear and show them what happens when they take specific actions



- With the final aim to ***speak a common language*** in our heterogenous, multidomain and multidisciplinary community and in order to help ***translating research questions into ICT requirements***, a template standard for modelling the different IJI validation cases has been designed and developed

Translating research questions into ICT requirements

LifeWatch ERIC workflow standard guidelines



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Translating research questions into ICT requirements

Workflow drawing

SYMBOL	SYMBOL TYPE	DESCRIPTION	EXAMPLE
1. Implemented task		A rectangle represents a process step like a basic task or an action.	Converter
2. Not yet implemented task		A dotted rectangle represents a pro a basic task or an action that implemented.	
3. Web service		A self-contained, modular, distribu application that allows different ap talk each other and share data and s	
4. Graph visualization task		A step that allows displaying inform or more graphs.	
5. Map visualization task		A step that allows displaying infor map.	
6. Cyclic task		A task that is performed in a cyclic be useful to specify the criteria.	
7. Manual task		A task where a user is prompt information manually.	
8. Timing task		A task that is performed in a timely be useful to specify the criteria.	

SYMBOL	SYMBOL TYPE	DESCRIPTION	EXAMPLE
9. Purposely-developed algorithm		A rectangle with wrench represents an algorithm that has been designed and developed for the specific purpose.	Relabeling
10. Literature-based algorithm		A rectangle with paper and pencil represents a well-known literature-based algorithm.	SVM Classifier
11. Customized literature-based algorithm			
12. HPC task			
13. Decision			
14. Sequence flow			
15. Comment	comment		
16. Description of the aim			

SYMBOL	SYMBOL TYPE	DESCRIPTION	EXAMPLE
17. Input / Output data with a specific format	SHP csv TIFF TXT	The icon with the specific format indicates the type of input / output data.	Land cover map; Test dataset; Ground truth; Confusion matrix
18. Input / Output data with a different format	single doc; multiple doc	The general icon for a document (or a group of document) whose format is not listed before. *Please, specify the format.*	Parameter file (TSV); Parameter files (TSV)
19. Open data		When the input data is open, this icon should be placed along with the input file icon with the specific format. *Please, provide reference.*	NIS data (http://www.website.eu)
20. Private data		When the input data is private, this icon should be placed along with the input file icon with the specific format.	Data Cube
21. Database		A list of information with a standard structure that allows for searching and sorting. It can be open or private.	Literature database
22. Input as output of another workflow		When the input of a task is the output of another workflow, this icon should be placed on the left of the input file icon with the specific format.	Habitat suitability map → Task X; Objective Task X

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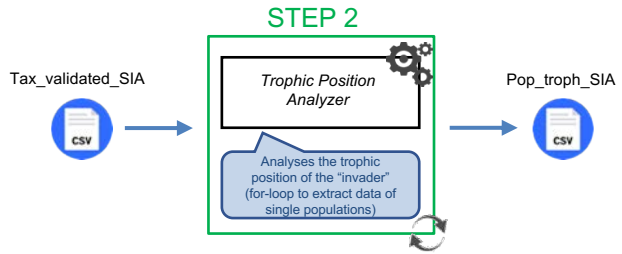
Translating research questions into ICT requirements



Workflow drawing Example

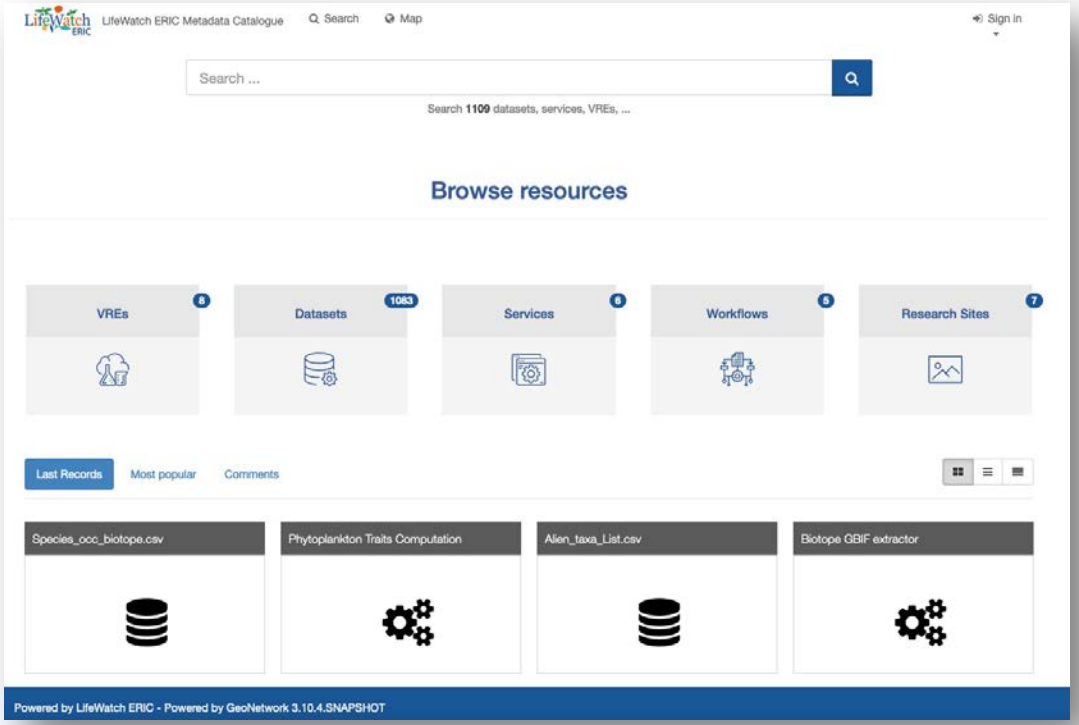
- Step 2 of the Crustaceans validation case
- We have a web service, ***Trophic Position Analyzer***, that analyses the trophic position of the “invader” by using a Bayesian model to estimate the NA values of the trophic position that corresponds to the column 13 “TP” of the ""Tax_validated_SIA.csv” file by means of a loop that allows extracting data of single populations.
- The service requires a specific input (Tax_validated_SIA.csv) and produces a given output (Pop_troph_SIA.csv)

Translating research questions into ICT requirements

- For each validation case we had ***several meetings*** with researchers and ICT staff to finely tune the diagrams including all the services with all required inputs and output files
- Naming homogeneity and ***consolidation***: high relevant and crucial task

- Once defined the ingredients of each workflow → metadatation process for every single resource (workflows/services/datasets) by adopting the ***LifeWatch ERIC metadata schemas***

LifeWatch ERIC Metadata Catalogue



https://metadatacatalogue.lifewatch.eu

LifeWatch ERIC Metadata Catalogue

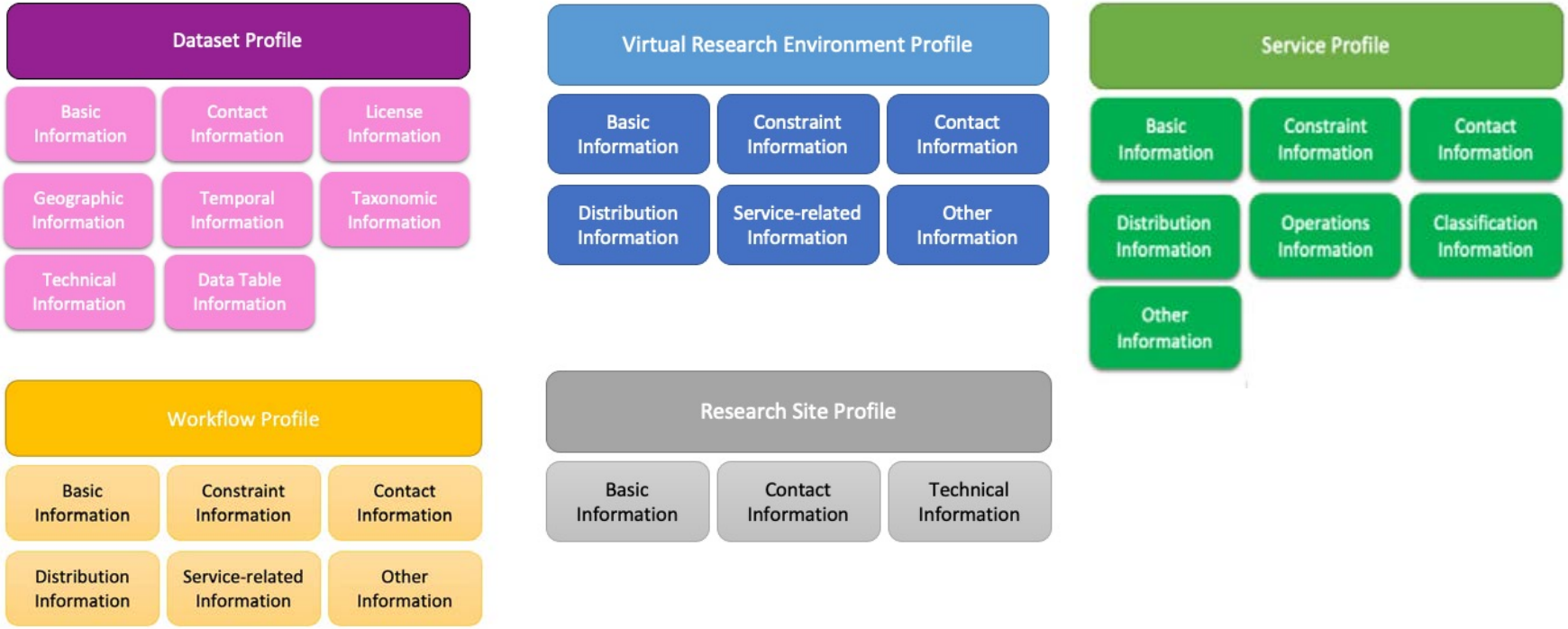
- The LifeWatch ERIC Metadata Catalogue is a standard-based information management system based on GeoNetwork 3.10, designed and implemented to enable access to several resources from a variety of providers through descriptive metadata, enhancing and promoting the information exchange and sharing among organisations and research infrastructures

- The catalogue allows to manage descriptive metadata related to ***datasets*** (EML 2.2.0 standard), ***research sites***, ***services***, ***Virtual Research Environments***, and ***workflows*** (ISO 19139 standard). Metadata attributes can be optional/mandatory and can require single/multiple values

- The catalogue allows (upon validation and verification) the creation of Digital Object Identifiers (DOIs) for resources that do not have it, by exploiting the GeoNetwork – DataCite connection.

https://metadatacatalogue.lifewatch.eu

LifeWatch ERIC Metadata Catalogue



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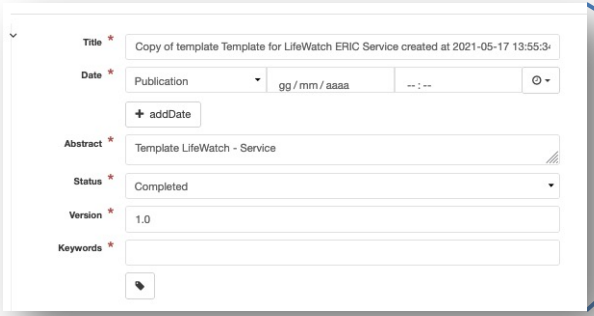
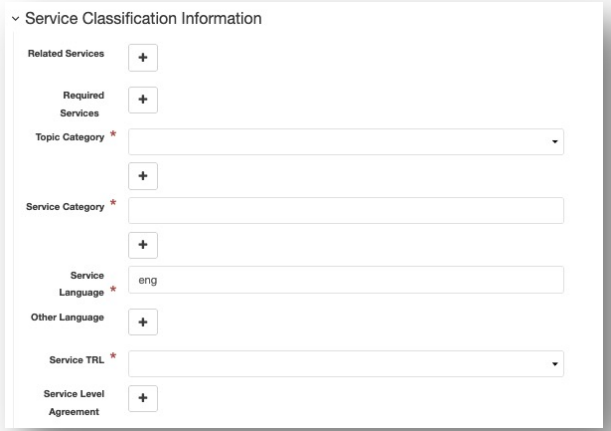
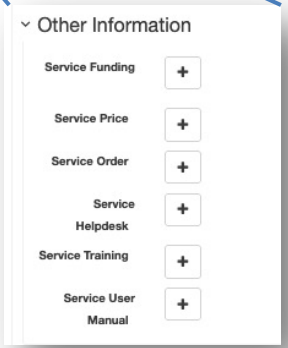




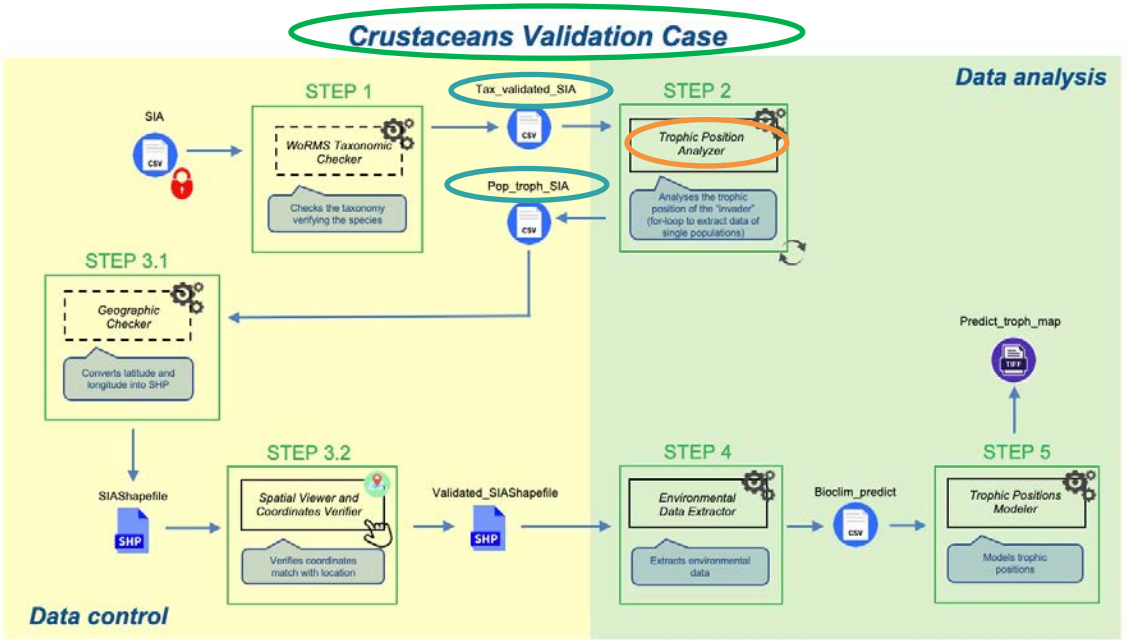


User-friendly interface.

Users are guided in the input process by means of:

- ***tooltips*** for the description of the specific field
- ***drop down lists*** with the appropriate values of the specific field
- multiplicity for multi-value attributes
- ***markers*** for optional / mandatory metadata (+ symbol or red asterisks)

LifeWatch ERIC Metadata Catalogue



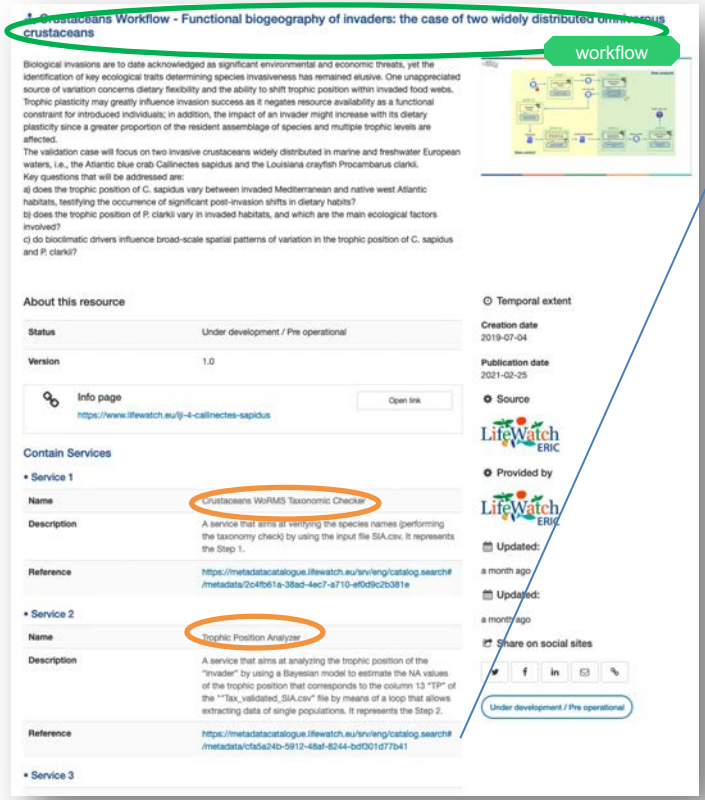
Example

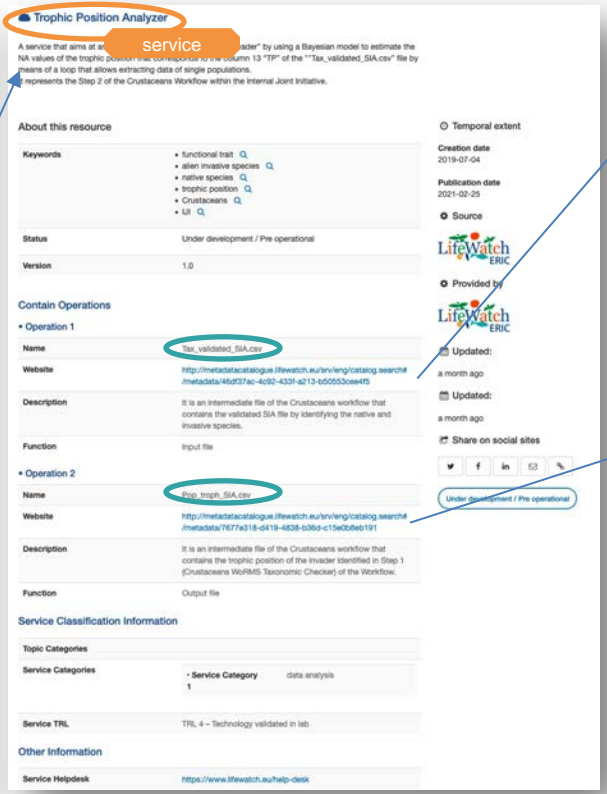
Step 2 of the Crustaceans validation case

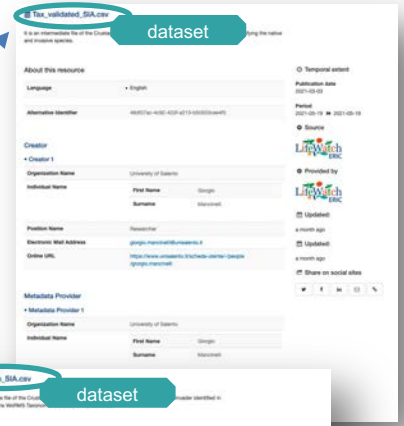
We have three kind of resources:

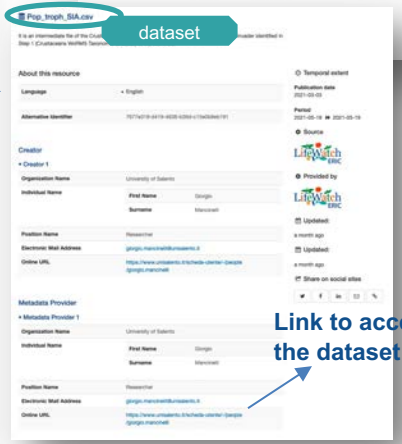
- the workflow
- the service
- the two (input/output) datasets

LifeWatch ERIC Metadata Catalogue



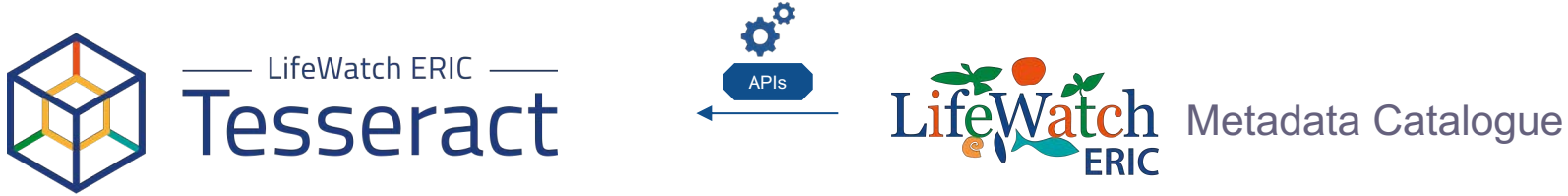






Next steps

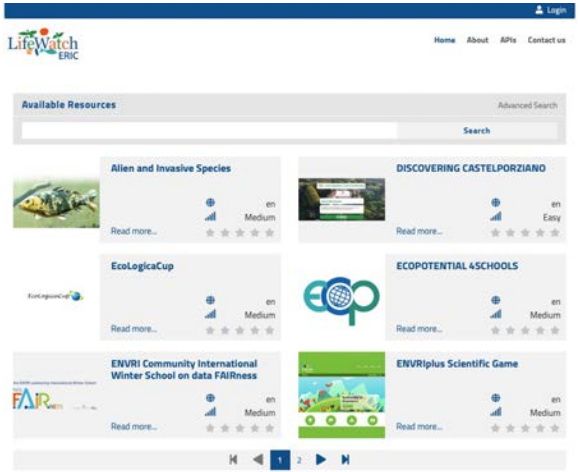
- The next deployment of the ***Tesseract*** user interface will include the ***integration with the LifeWatch ERIC Metadata Catalogue***



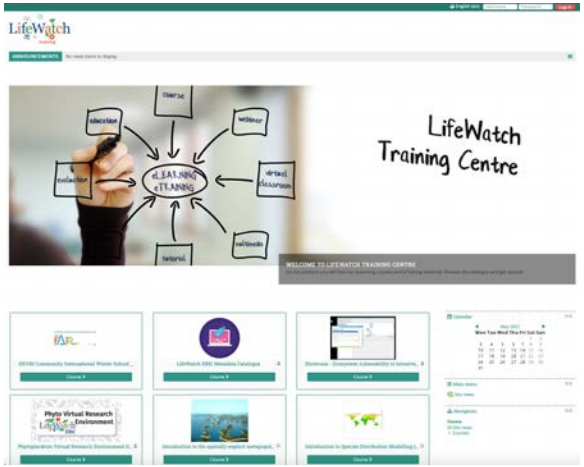
- This means that ***Tesseract*** will automatically include all the abstracts/descriptions for every single component of the workflows and will be possible to select “ingredients” directly from the Catalogue

Next steps

- ***Step-by-step tutorial*** describing in detail each step of each workflow and aimed at easing the communication between scientists and the ICT team.
- In the short/medium term it will be converted in a ***training*** kit ***for use and knowledge*** explaining how to use each tool, which kinds of files are needed, and what is needed to know in advance (e.g., assumptions, limiting factors, etc.) → ***Training Catalogue*** and ***Training Platform***



https://trainingcatalogue.lifewatch.eu



http://training.lifewatch.eu

Thank you

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