



*Second training course
Ostende, 20-22 May 2014*



SeaDataNet

*PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT*

MIKADO: Generation of CDI ISO19139 XML files

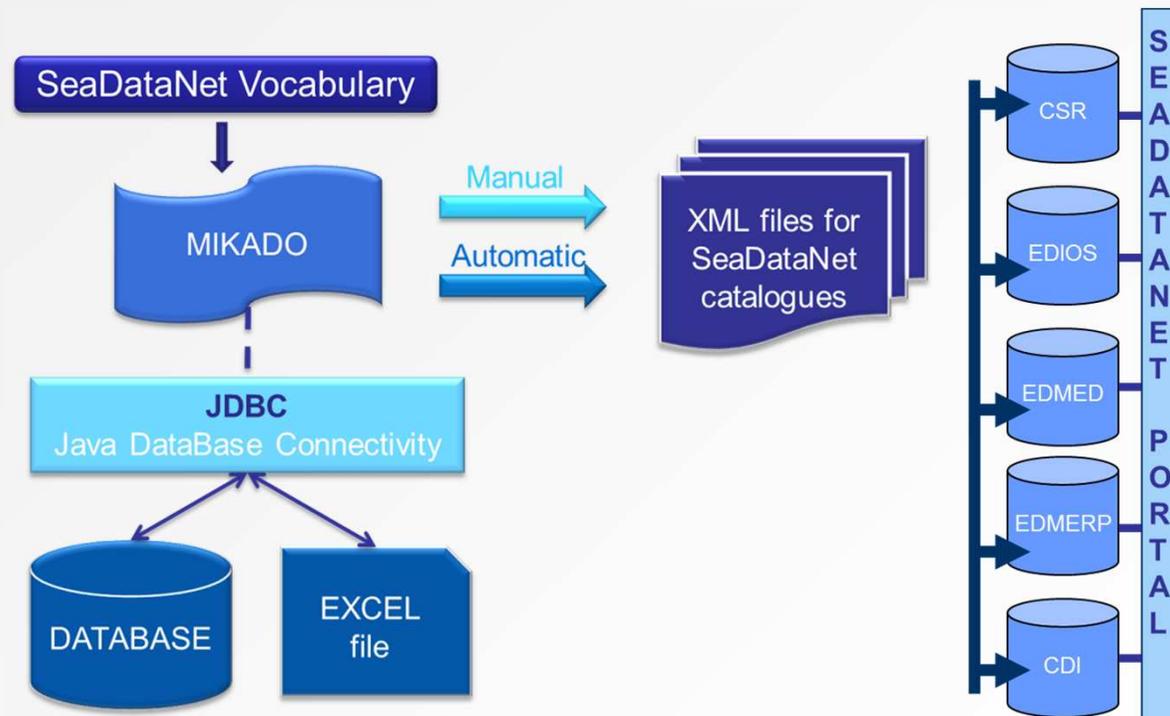
V. Tosello, IFREMER

Overview

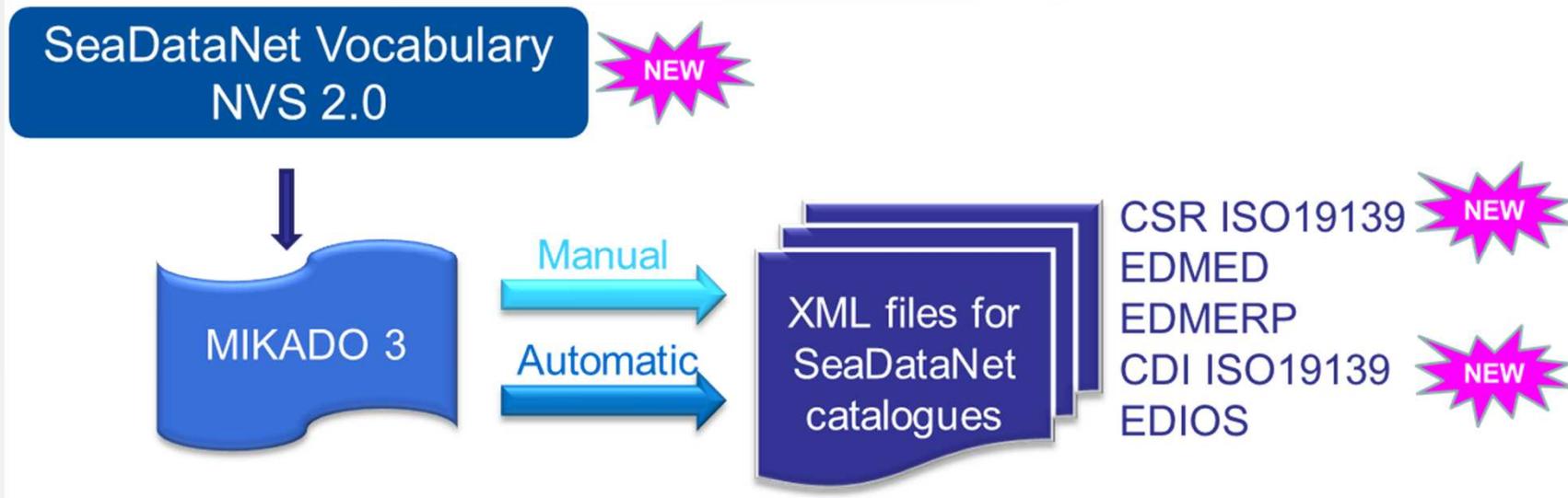
- What's Mikado ?
- What's new in MIKADO 3?
- Description of CDI ISO 19139
- How to create and update CDI ISO 19139 XML files?
 - Mikado manual
 - Mikado automatic
- How to validate my CDI files?
- Practical work

What's MIKADO ?

Tool for the generation of XML descriptions of SeaDataNet catalogue records (CSR, CDI, EDIOS, EDMED, EDMERP)

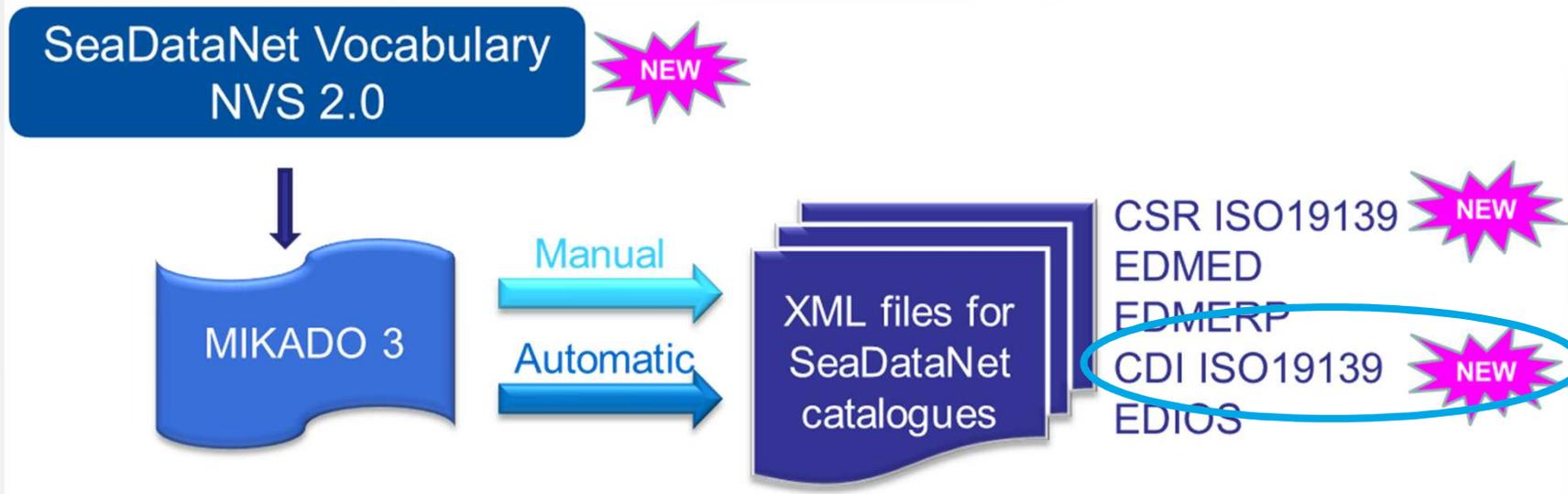


What's new in MIKADO 3?



- Migration to NVS 2.0 BODC vocabulary
- Migration to INSPIRE compliance (CSR and CDI ISO 19139)

What's new in MIKADO 3?



- Migration to NVS 2.0 BODC vocabulary
- Migration to INSPIRE compliance (CSR and CDI ISO 19139)

CDI ISO 19139 (1/9)

All CDI ISO 19139 documentation available at:

<http://www.seadatanet.org/Standards-Software/Metadata-formats/CDI>



The screenshot shows the SeaDataNet website interface. At the top, there is a navigation menu with links for Overview, Metadata, Data Access, Standards & Software (which is highlighted), Products, Events, and Publications. Below the menu, a breadcrumb trail reads: SeaDataNet2 > Standards & Software > Metadata formats > CDI. The main content area is titled "CDI" and contains the following text:

The **Common Data Index (CDI)** metadata format is based upon the ISO19115 content standard and both its content and XML coding have been upgraded in September 2013 to the ISO19139 schema and made INSPIRE compliant. Also the MIKADO software has been upgraded so that it can work with and produce CDI XML files that are following the upgraded CDI content and XML format. It should be noted that the content upgrading also concerns migrating to the new Vocabularies (NVS2.0) and including a number of optional extensions. Provisions have been made in the new MIKADO to read both the previous and the new CDI XML files and to export both in the new XML format, ensuring upwards compatibility.

New SeaDataNet CDI profile of ISO 19139 metadata - INSPIRE compliant

The CDI format is a marine profile of the ISO 19115 metadata content standard. The XML encoding has been upgraded to the 19139 Schema, which is a standard in the EU INSPIRE Directive implementing Rules. Therefore an analysis has been undertaken for upgrading the CDI Schema and its encoding to ensure INSPIRE compliance. The existing CDI metadata content has been taken as basis but extra optional elements have been included for bibliographic, CSR and EDMED references and quality information. The analysis has been performed by CNR with support of MARIS, IFREMER, STFC, BODC and ENEA.

The analysis has resulted in a new profile documentation. Furthermore related documentation has been prepared which defines and details the XML schema implementation for this metadata profile, based on the XML schema defined in ISO 19139:2006 TS plus additional definitions and Schematron rules.

Documentation

- [SeaDataNet CDI profile document](#)
- [SeaDataNet CDI profile document - XML encoding](#)
- [SeaDataNet CDI profile excel file - content fields and vocabs used](#)

On the left side of the screenshot, there is a sidebar menu with categories: SeaDataNet architecture, Common Vocabularies, Metadata formats (with sub-items: CSR, CDI, EDMED, EDMERP, EDIOS), Data Transport Formats, Data Quality Control, Software, AAA services, and Monitoring portal (only members). At the bottom of the sidebar, there is a "News" section with a link to "Third annual meeting" dated September 24-26, 2014, in Split (Croatia).

CDI ISO 19139 (2/9)

- MIKADO generates (manually or automatically) ISO 19139 CDI descriptions instead of ISO 19115 ones.
- MIKADO is still able to read (import) CDI ISO 19115 files and save them as ISO 19139 XML files for data centres to update their existing local XML files, **one by one** (Manual Menu: Open, Save)



CDI ISO 19139 (3/9)

- Main changes in MIKADO
 - Addition of new optional fields
 - EDMED reference
 - CSR reference
 - Additional documentation
 - Data quality information
 - Change in date format (revision date and station date)
 - Change in Sampling interval



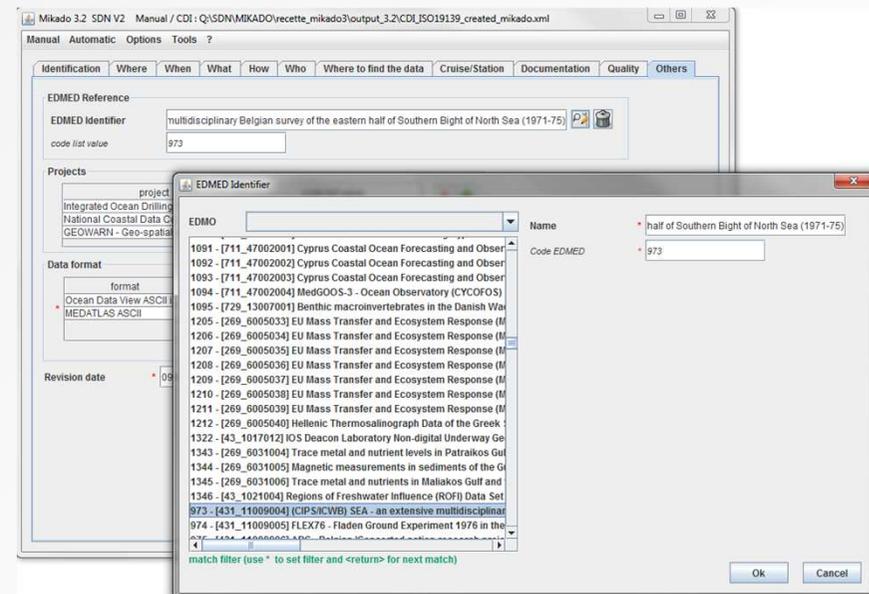
SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Do not forget to
create first your
entry in EDMED
Catalogue!

CDI ISO 19139 (4/9)

- [EDMED Reference](#)
- A reference to the EDMED directory has been added in CDI ISO 19139 profile.
- Optional field in MIKADO
 - EDMED reference (manual)
 - Dropdown list
 - Uploaded using webservice
 - Sorted by EDMO code
 - Var80 (automatic)
 - Mapping available
 - Central EDMEDId or EDMOCode_LocalEDMEDId





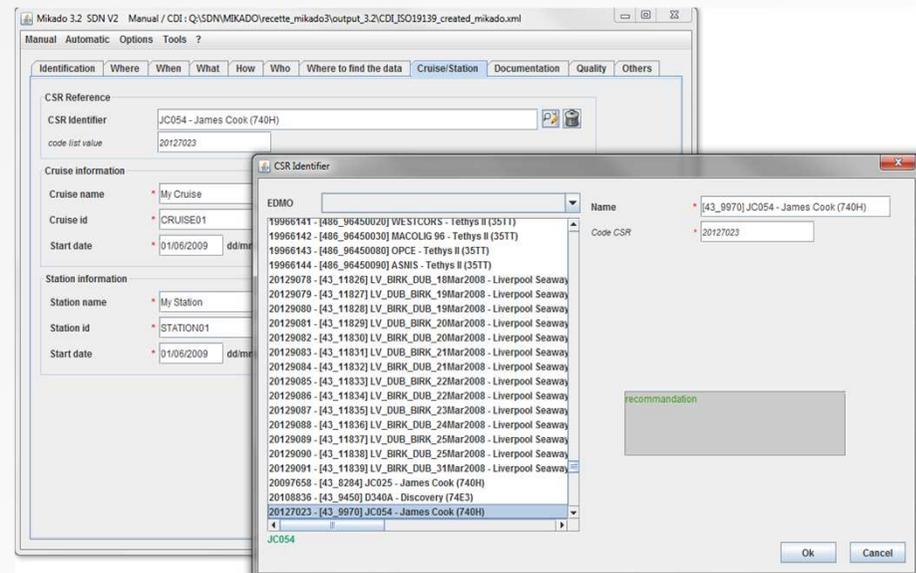
SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Do not forget to
create first your
entry in CSR
Catalogue!

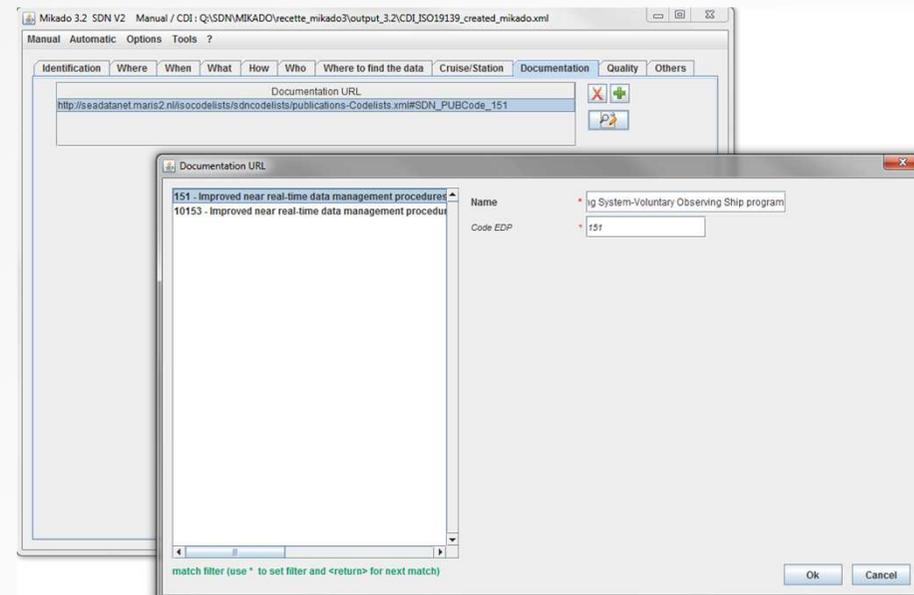
CDI ISO 19139 (5/9)

- CSR Reference
- A reference to the CSR directory has been added in CDI ISO 19139 profile.
- Optional field in MIKADO
 - CSR reference (manual)
 - Dropdown list
 - Uploaded using webservice
 - Sorted by EDMO code
 - Var81 (automatic)
 - Mapping available
 - Central CSRIId or EDMOCode_LocalCSRIId



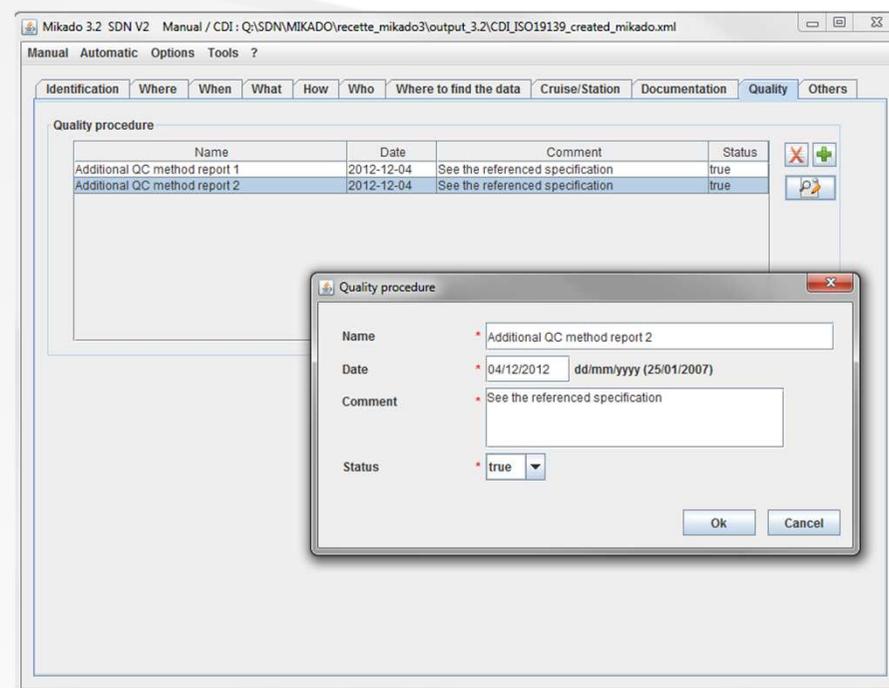
CDI ISO 19139 (7/9)

- [Additional documentation](#)
- References to publications and documentations have been added in CDI ISO 19139 profile. Every CDI record can reference any number of publications.
- Optional field in MIKADO
 - Documentation tab (manual mode)
 - Dropdown list,
 - Upload using webservice
 - Var 90 (automatic mode)
- Use of permanent URLs:
 - Catalogue of publications (MARIS)



CDI ISO 19139 (5/9)

- Data Quality Information
 - Every CDI record can reference any number of data quality reports.
 - Optional fields in MIKADO:
 - Quality tab (manual)
 - Var95 to var98 (automatic)





SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Second Training Course
Ostende, 20-22 May 2014

CDI ISO 19139 (8/9)

- Changes in date format: YYYY-MM-DDTHH:MM → YYYY-MM-DD
→ Revision date, Station date
- MIKADO manual : follow the instructions in the MIKADO interface

Station information

Station name	<input type="text"/>
Station id	<input type="text"/>
Start date	<input type="text"/> dd/mm/yyyy (25/01/2007)

- MIKADO automatic: use the right format to avoid « date type » error during generation (var06, var 20)



SeaDataNet

PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Second Training Course
Ostende, 20-22 May 2014

CDI ISO 19139 (9/9)

- Sampling interval
 - “Sampling interval” → “Time resolution”
 - “When” tab (manual)
 - Var21 and 22 (automatic)
 - Value + L031 “SDN Measurement Periodicity Categories »
→ Value + P06 “BODC data storage units”

Sampling interval

value

unit

SDNIdent (uomName)

L031

Time resolution

Value

Unit

P06



PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Second Training Course
Ostende, 20-22 May 2014

How to create and update my CDI files?

sdn-userdesk@seadatanet.org – www.seadatanet.org

MIKADO manual (« Manual » menu)

- Create and update XML files
 - Create a new XML file or open your existing XML file
 - Fulfil or Update the different fields
 - Fulfil new fields if possible
 - EDMED reference,
 - CSR reference,
 - Data Quality,
 - Documentation
 - Save your XML file

If you do not find your EDMED, CSR and Documentation entries in MIKADO, do not forget to update the Vocabulary Lists (Menu Options)!

MIKADO automatic (« Automatic » menu)

- Create and update XML files
 - Update your MIKADO 2.5 configuration files
 - Revision date (var06), Station date (var20): YYYY-MM-DD
 - Sampling interval (var 21,22) : Use P06 instead of L031
 - Fulfil the new fields if possible
 - EDMED reference var80,
 - CSR reference var81,
 - Data Quality var95 to var98,
 - Documentation var90
 - Save your configuration files
 - Generate your XML files

How to validate my CDI files?

IMPORTANT: The Validation Service (www.seadatanet.org/validator) is not maintained anymore.

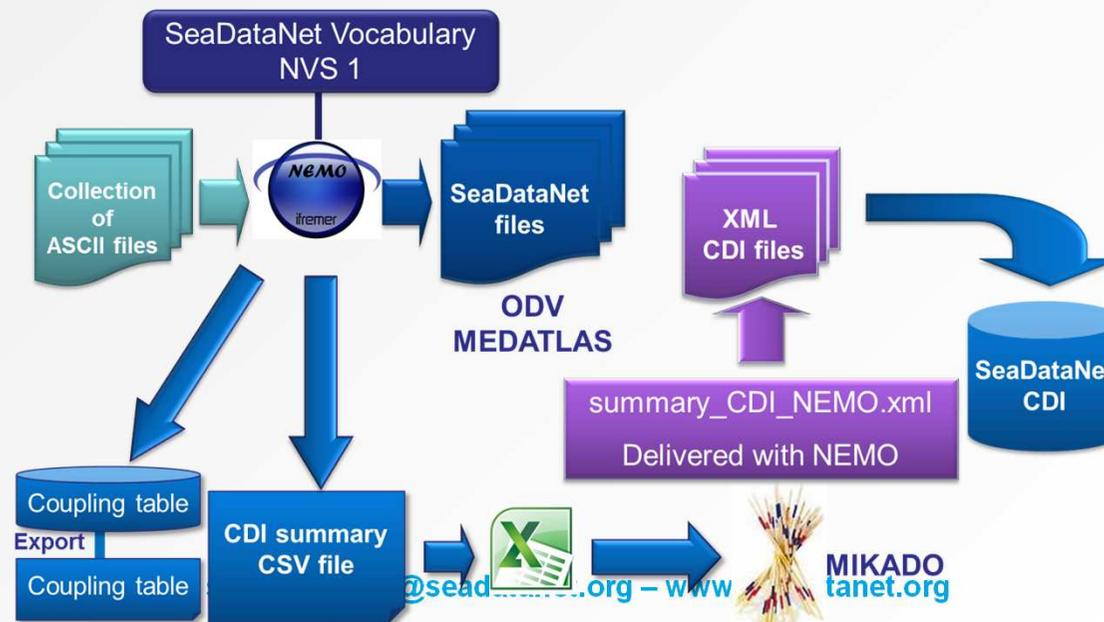
- To begin, you can open some of your XML files in MIKADO manual and check the content of the different fields.
- CDI and CSR ISO19139 XML Schemas are dynamically supported by ISO XML lists for EDMED, EDMO, EDMERP, CSR, Vocabs, ISO through Schematron.
 - This allows to validate CDI and CSR XML entries using a XML editor (XML Spy or Oxygen or other XML editors).

Practical work « CDI workshop »

- For experienced users
 - Work on your own data and your own XML files
 - Ask your questions,
 - Show your problems,
 - Give feedback
 - NEMO, MIKADO, Coupling table
- NEMO and NetCDF
 - On Thursday during NetCDF workshop

Practical work « CDI workshop »

- For new users
 - « For new users » folder
 - SDNtools.ppt = lecture about NEMO and MIKADO tools
 - Practicalwork.ppt = exercises on NEMO and MIKADO



Practical work « CDI workshop »

- For experienced users who did not bring their own files:
 - Work on the provided data and XML files in « MIKADO » folder which contains
 - An excel file of CDI metadata (generated by NEMO): NEMO_CDI_summary.xls
 - « ISO19115 » folder
 - a CDI ISO 19115 file:
CDI_ISO19115_test_training_00005_H10.xml
 - a MIKADO configuration file for CDI XML generation (provided in NEMO): summary_CDI_NEMO.xml

Practical work « CDI workshop »

- Exercise 1: MIKADO manual
 1. Open the CDI ISO 19115 XML file in MIKADO manual
 2. Add an EDMED reference
 3. Add a CSR Reference
 4. Save the CDI file (= CDI ISO 19139)
 5. Compare the CDI ISO 19115 and CDI ISO 19139 by opening them in a text editor or in IE

Practical work « CDI workshop »

- **Exercise 2: MIKADO automatic**
 1. Open the MIKADO configuration file `summary_CDI_NEMO.xml` in MIKADO automatic
 2. Modify the « Connection » in order to link this configuration file to the Excel file `NEMO_CDI_summary.xls`
 3. Add an EDMED reference (var80)
 4. Add an CSR Reference (var81)
 5. Save the configuration file
 6. Generate CDI ISO 19139 using this configuration file
 7. Open one of the generated CDI XML files using MIKADO manual to check the content of the different fields



PAN-EUROPEAN INFRASTRUCTURE
FOR OCEAN & MARINE DATA
MANAGEMENT

Second Training Course
Ostende, 20-22 May 2014

Thank you for your attention