



GEO-CRADLE Regional Workshop in Romania

National Institute of Research and Development for Earth's Physics (NIRDEP);

May 9th 2017, Bucharest, Romania

THE EU DATA QUALITY CHALLENGE - GARBAGE IN-GARBAGE OUT

HOW TO STRENGTHEN REGIONAL/NATIONAL/LOCAL RESILIENCE IN A GLOBALISED WORLD?

The Bulgarian concept from 2004 – an European Network of regional centers for integrated risk and territory management

**d.g. Ljudmila Milenova – CEO of ReSAC
ReSAC&
Bulgarian Office for Earth Observation**

**d. arch. Kristian Milenov - CEO of ASDE;
Secretary of IMWG/R-94/20.04.2015
ASDE – ECOREGIONS &
Bulgarian Office for Earth Observation**

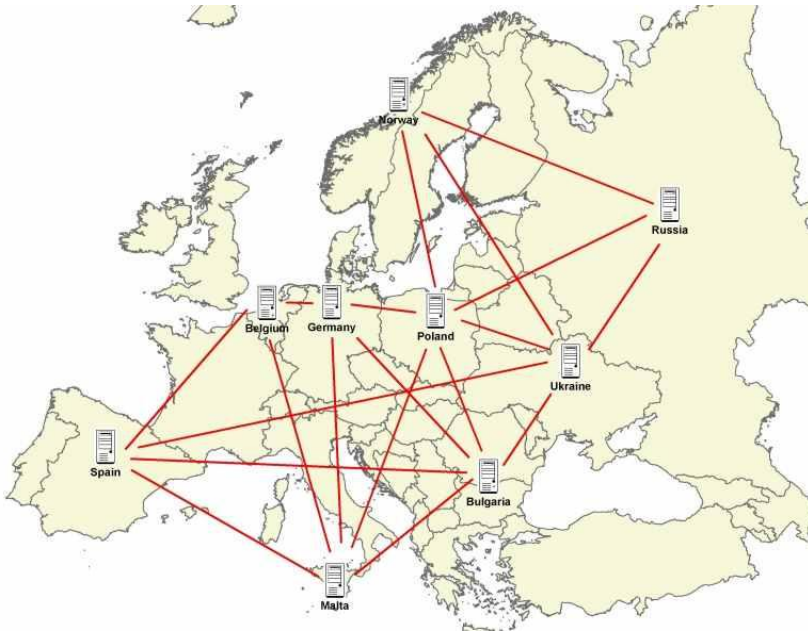


CONTENT / CONCEPT:

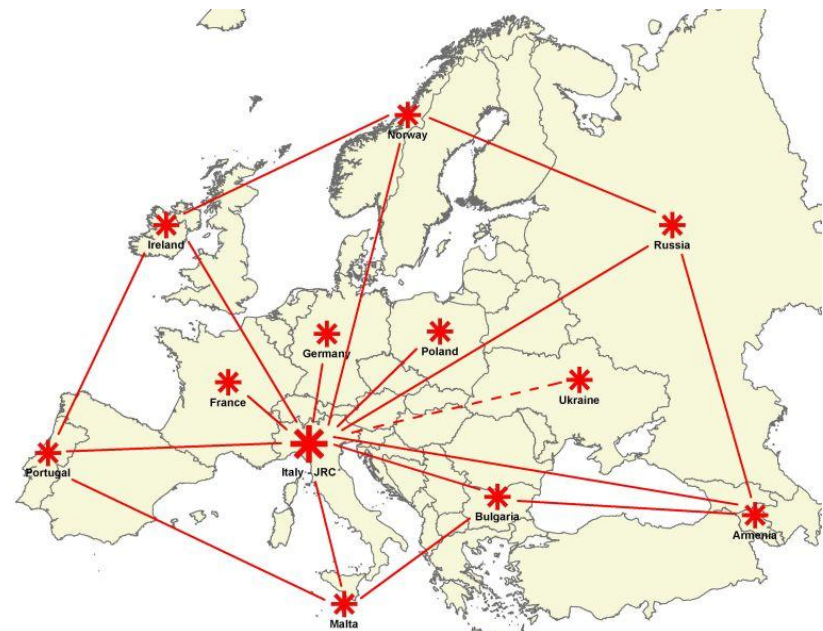
- A. **ON STRATEGY PLANNING – DECENTRALIZATION+ PREVENTION AND STRATEGY PLANNING**
- B. **ON INFORMATION – STOP “GARBAGE IN – GARBAGE OUT”!** Closing databases divide; Data harmonization; Reference LC/LU Layer
- C. **ON OPERATIONAL CAPACITY –**
 - **REGULAR MONITORING OF CHANGES** – based on integrated COPERNICUS and in-situ data;
 - **PROJECTS AND POLICIES, BASED ON RESULTS, NOT ON DOCUMENTS** (stop bureaucracy and formal reports)
 - **HARMONISED SmartSDB (INSPIRE Dir. + ISO 19144-2 based SMARTCOVER SDB) + HIGH PERFORMANCE COMPUTING and BIG DATA ENABLED APPLICATIONS** (incl. the JRC Earth Observation Data and Processing Platform, EMM, DRDSI, DIAS, EFFIS, etc...)
- D. **ON MANAGEMENT – USER ORIENTED INTEGRATED APPROACH - REGIONAL NET FOR INTEGRATED RISK AND TERRITORY MANAGEMENT**
- E. **ON AUDITING – “3E” – ECONOMY, EFFICACY, EFFICIENCY**
- E. **3-d EU OPERATIONAL CAPACITY WORKSHOP–SOFIA, 2017-2018**



**A. ON STRATEGY PLANNING 1 – A BRICK IN THE WALL- DECENTRALIZATION:
Intelligent Data Processing in Global Monitoring for Environment and Security – a
joint proposal for European risk management partnership in 2010 and 2011 – the
1-d and 2-d operational capacity workshop in Sofia / I T H E A[®] Sofia-Kiev**



European network of application servers for analyses, simulation and risk monitoring



European network of regional units for risk and security management, LC/LU changes monitoring and data quality assurance

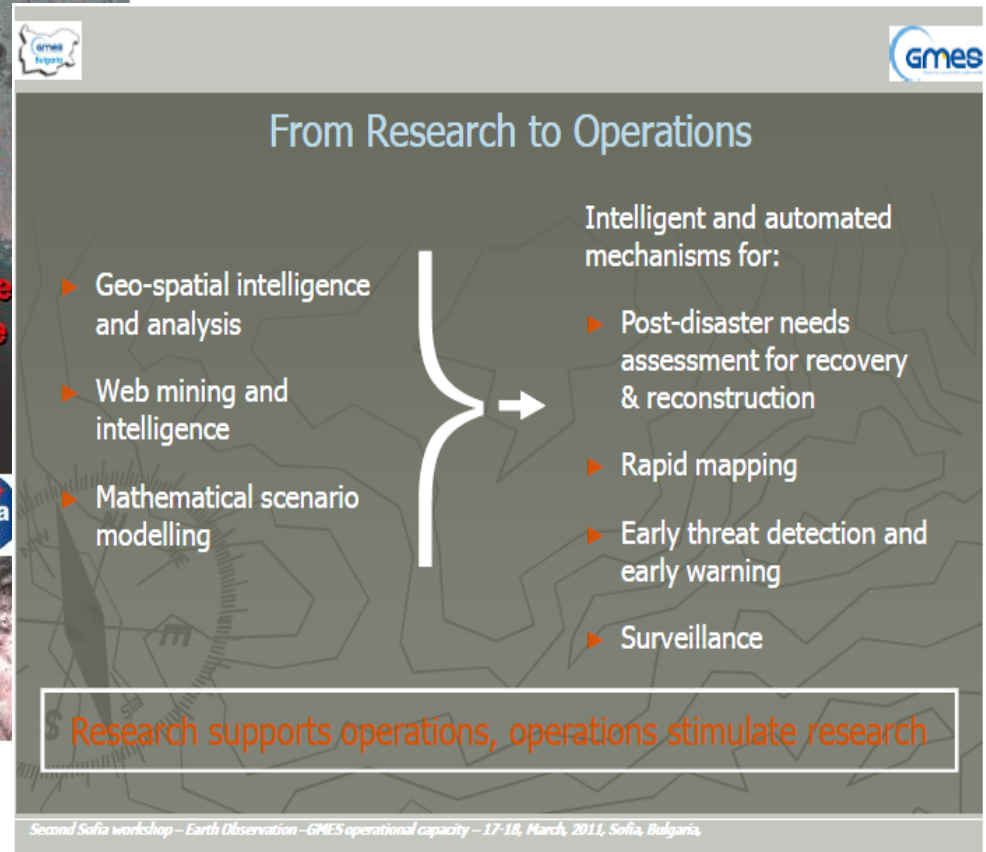
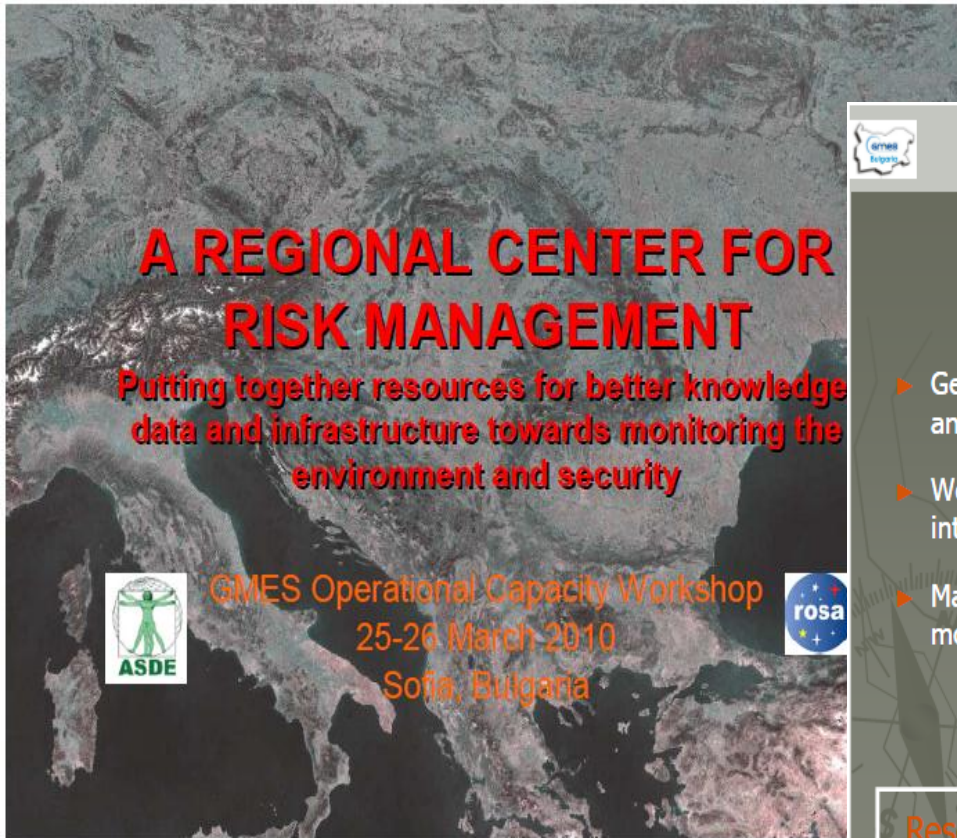
Bucharest, Romania;



A. ON STRATEGY PLANNING 2 – A SECOND BRICK IN THE WALL- DECENTRALIZATION + MS REGIONAL PARTNERSHIP – a BG&RO joint proposal for European risk management center in 2010 and 2011 – Ivan Filipov(ASDE)& Ion Nedelcu (ROSA)

Stephan Lechner (JRC –IPSC)

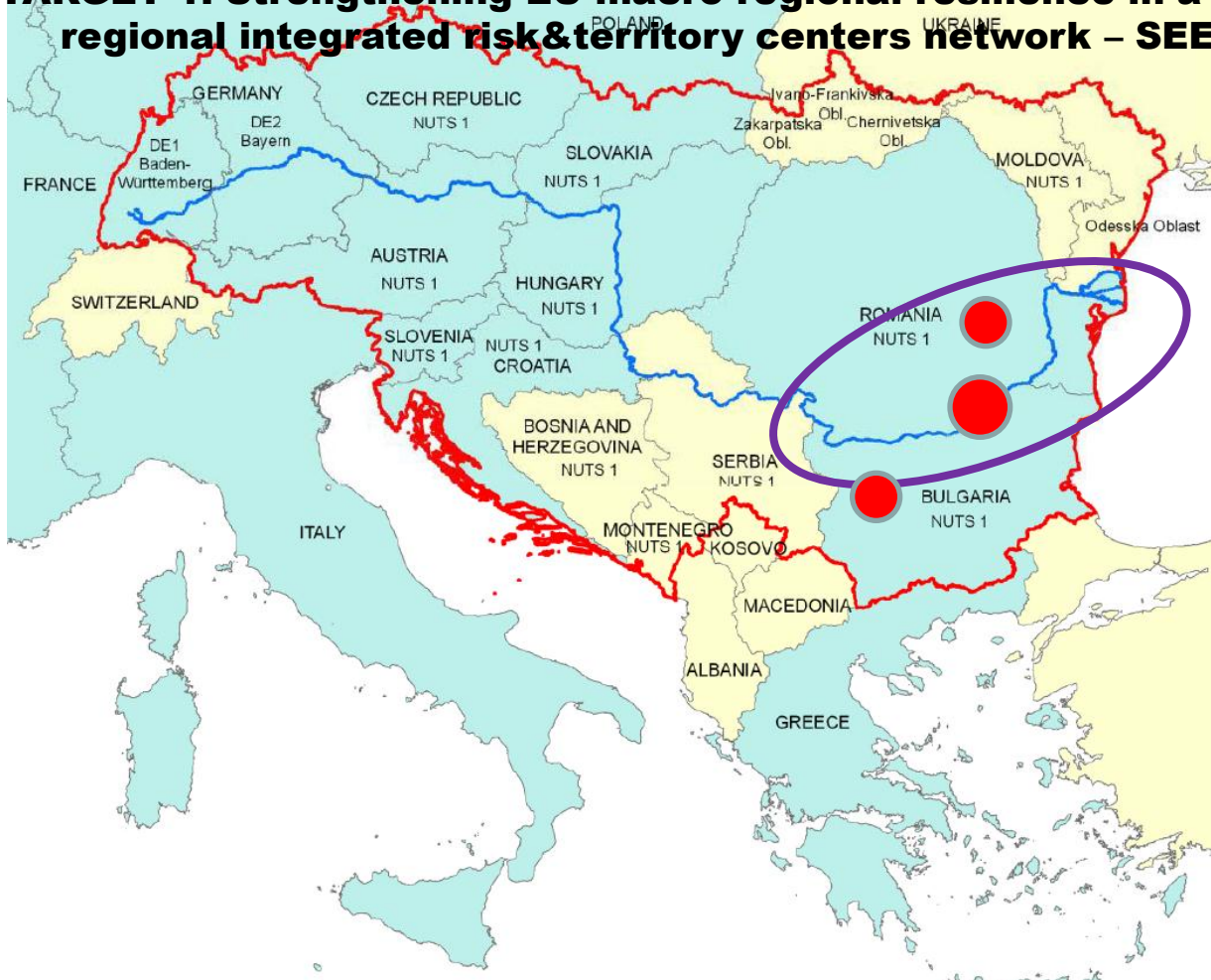
Rousi Ivanov(MFA)





A. ON STRATEGY PLANNING 3 - ANOTHER BRICK IN THE WALL : DECENTRALIZATION: INTERREG-V-A - REGIONAL NETWORK FOR INTEGRATED RISK AND TERRITORY MANAGEMENT – Euroregion Ruse/Giurgiu – Sofia –Bucharest – 2015-2016

TARGET 1: Strengthening EU macro-regional resilience in a globalized world – EU regional integrated risk&territory centers network – SEE Regional network

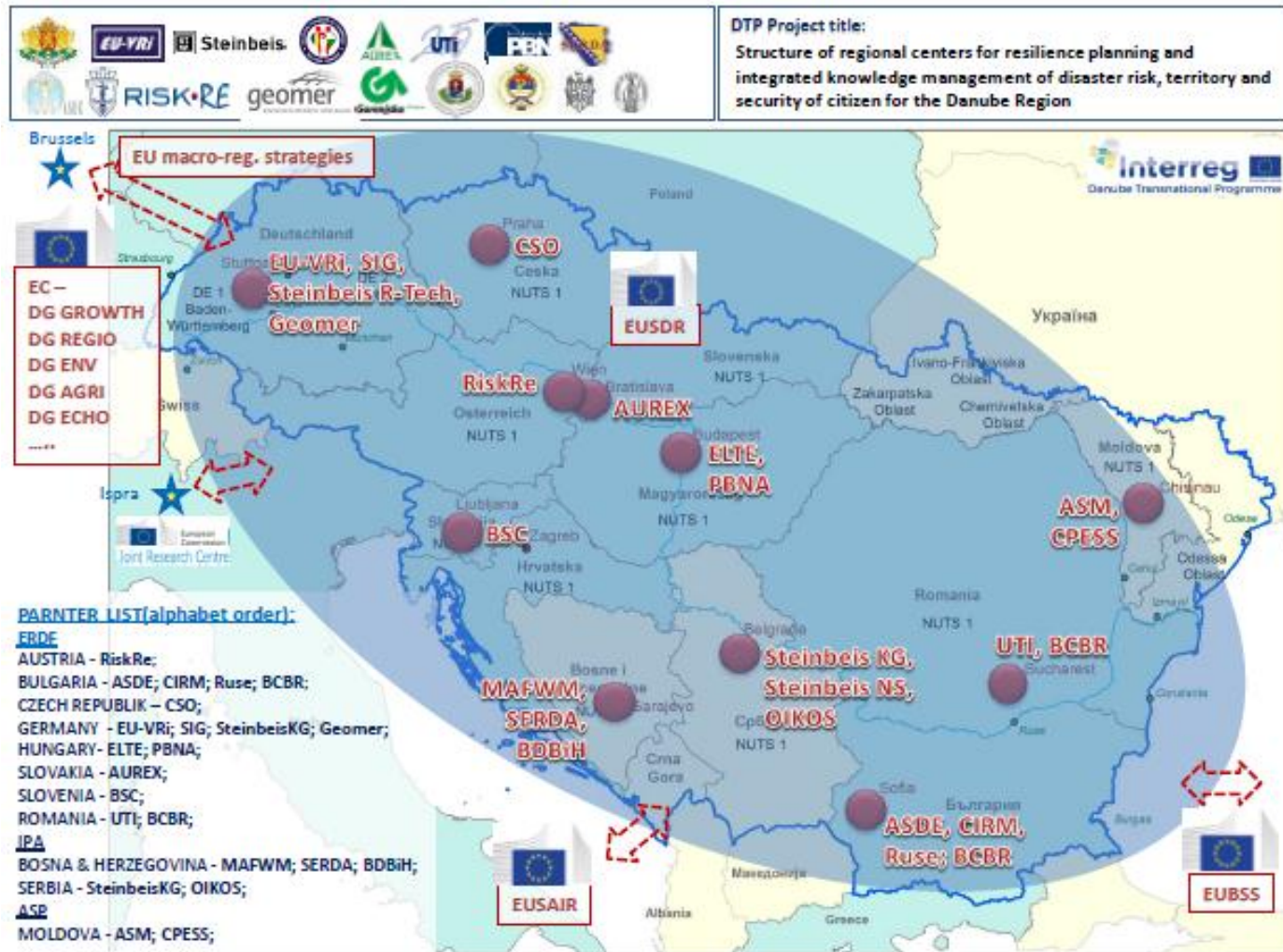


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THE FIRST EUROPEAN TRANS-BORDER RESILIENCE SDB Geo-portal – maximizing COPERNICUS impact - SOUTH EAST EUROPEAN RISK AND TERRITORY REFERENCE DATA AND SERVICES INFRASTRUCTURE (INTEGRATED BIG DATA, HIGH PERFORMANCE COMPUTING, PREVENTION ANALYSIS/GAMIFICATION AND REGULAR MONITORING) – currently Trans-border reference SDB and SmartCover Architecture geo-portal for Bulgaria and Romania; next step – Bulgaria-Macedonia, Bulgaria-Serbia, Bulgaria-Greece and Bulgaria-Turkey); Possibility to include also Moldova and Ukraine; Third step –Danube region countries; Forth step



A. ON STRATEGY PLANNING 4 - ANOTHER BRICK IN THE WALL : DANUBE TRANSNATIONAL PROGRAM – REGIONAL CENTERS NETWORK – RES-DANUBE - 2016



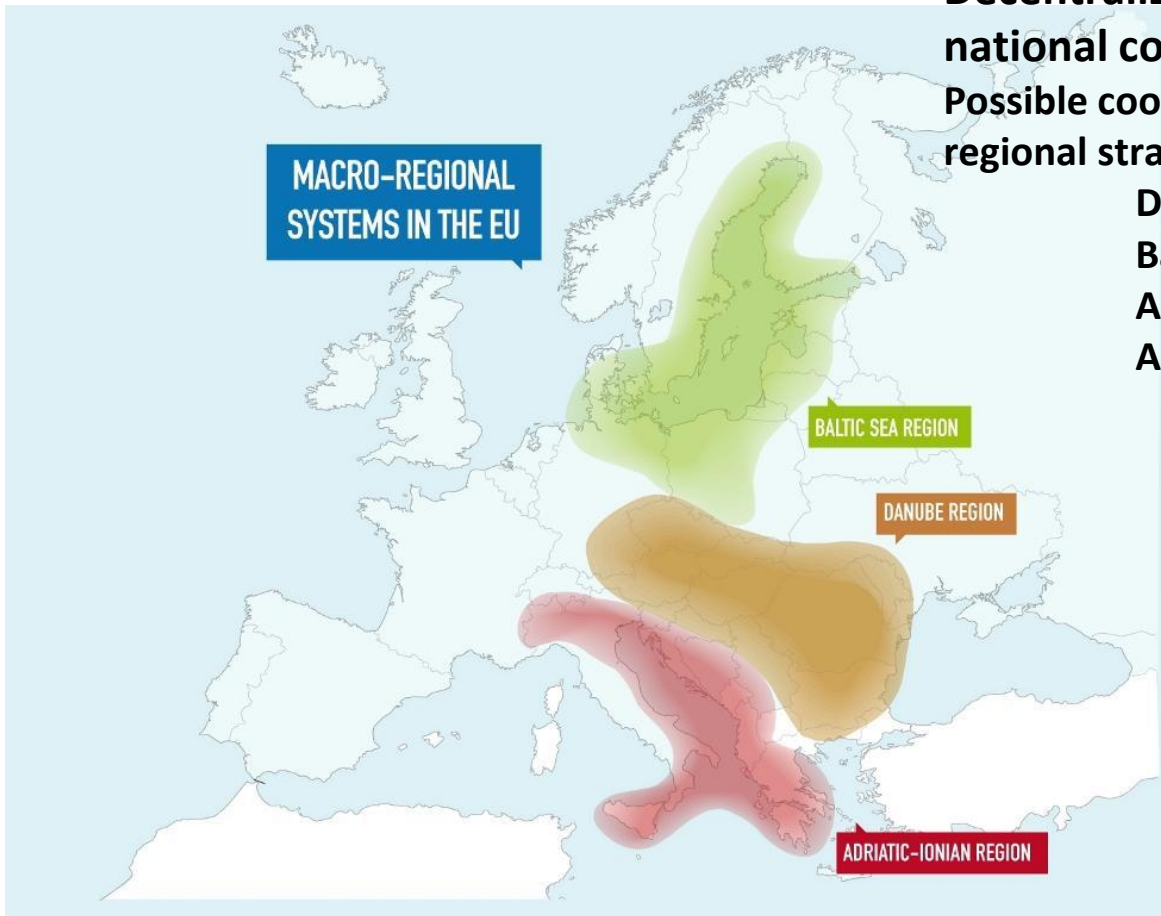
Bucharest, Romania;



A. ON STRATEGY PLANNING 6 – Proposed **solution for European Resilience (Integrated Risk and Territory management) Infrastructure – EU macro-regions**

Decentralization -Priority on trans-national cooperation – Possible cooperation with the EU Macro-regional strategies:

- Danube Strategy;**
- Baltic Strategy;**
- Adriatic-Ionian Strategy;**
- Alpine Strategy;....**



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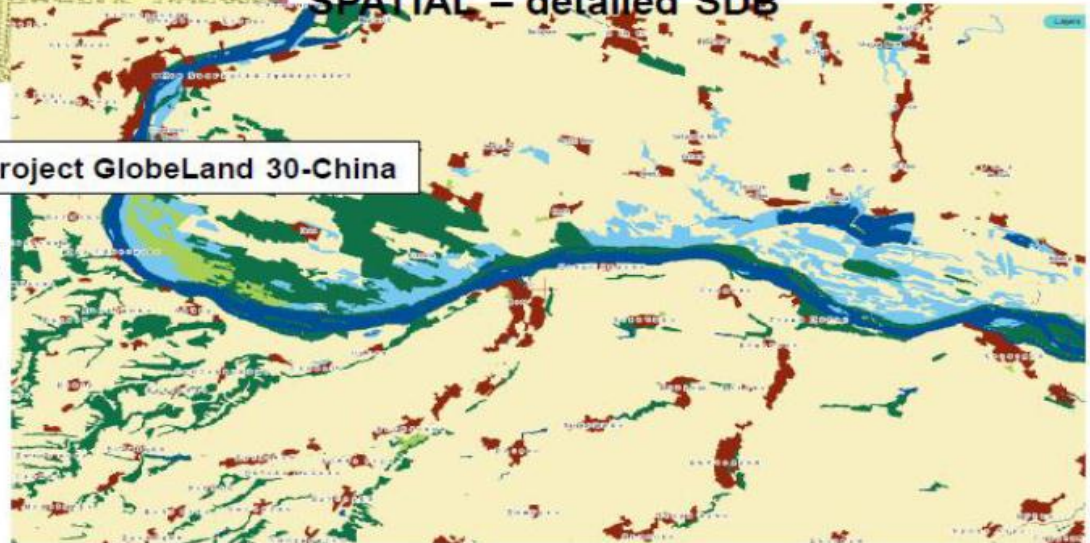


A. ON STRATEGY PLANNING 7: Possibilities for **EU-CHINA COOPERATION on **EARTH OBSERVATION** integrating EU SmartCover interpreted COPERNICUS data with China GlobeLand project ; FUTURE – EU-AFRICA, EU-INDIA, etc.**



Reference Land Cover - CBC project SPATIAL – Bulgaria –Romania –Danube region-Europa

- China created a land cover dataset for the whole world based on Landsat data – GlobeLand 30 project – global SDB
- ASDE elaborated reference land cover dataset for the cross-border area of Bulgaria and Romania – CBC project SPATIAL – detailed SDB



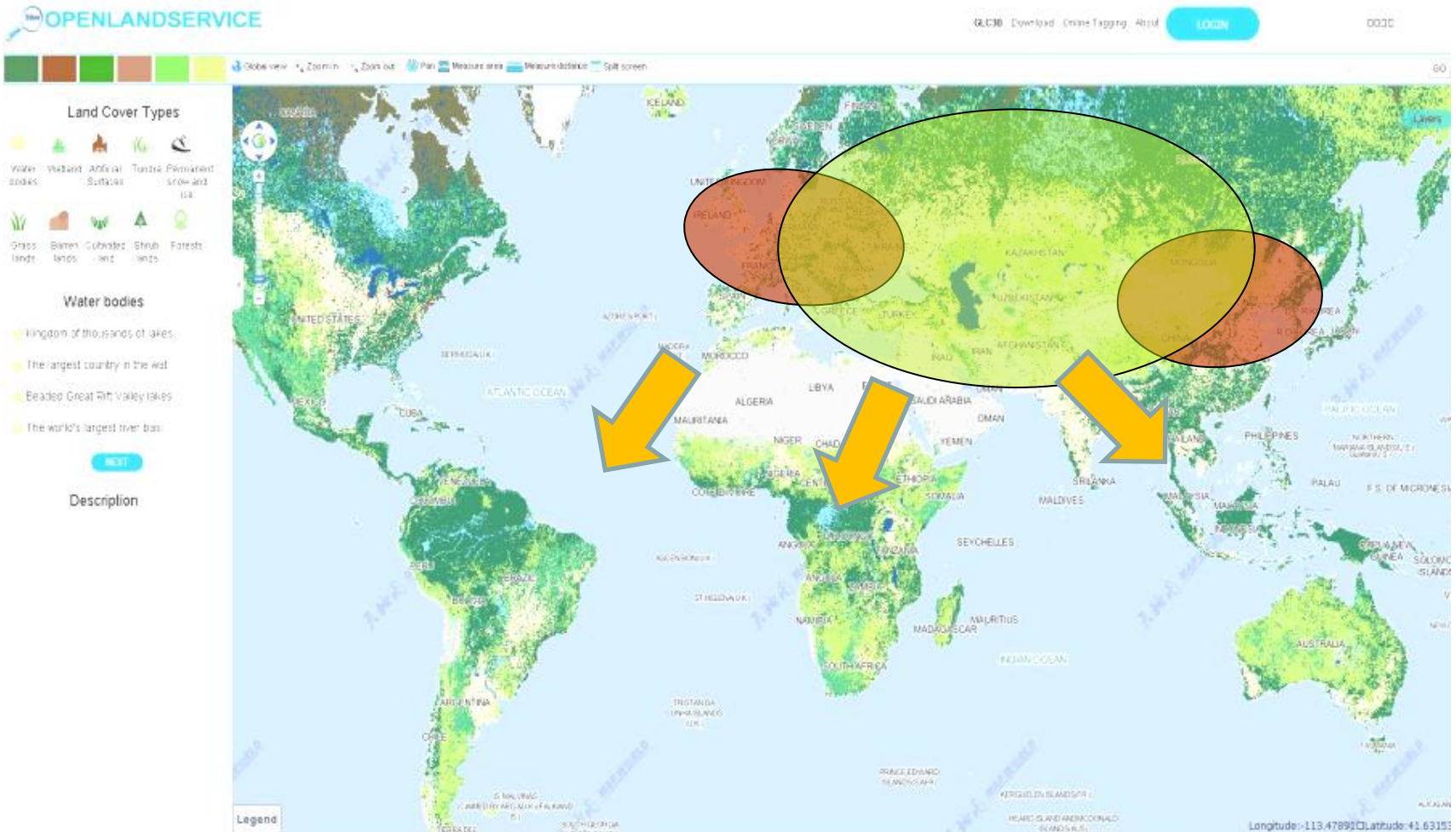
Project GlobeLand 30-China

- Product comparison undergoing
- Initial discussions conducted with the National Geomatics Center of China and ISPRS Secretariat

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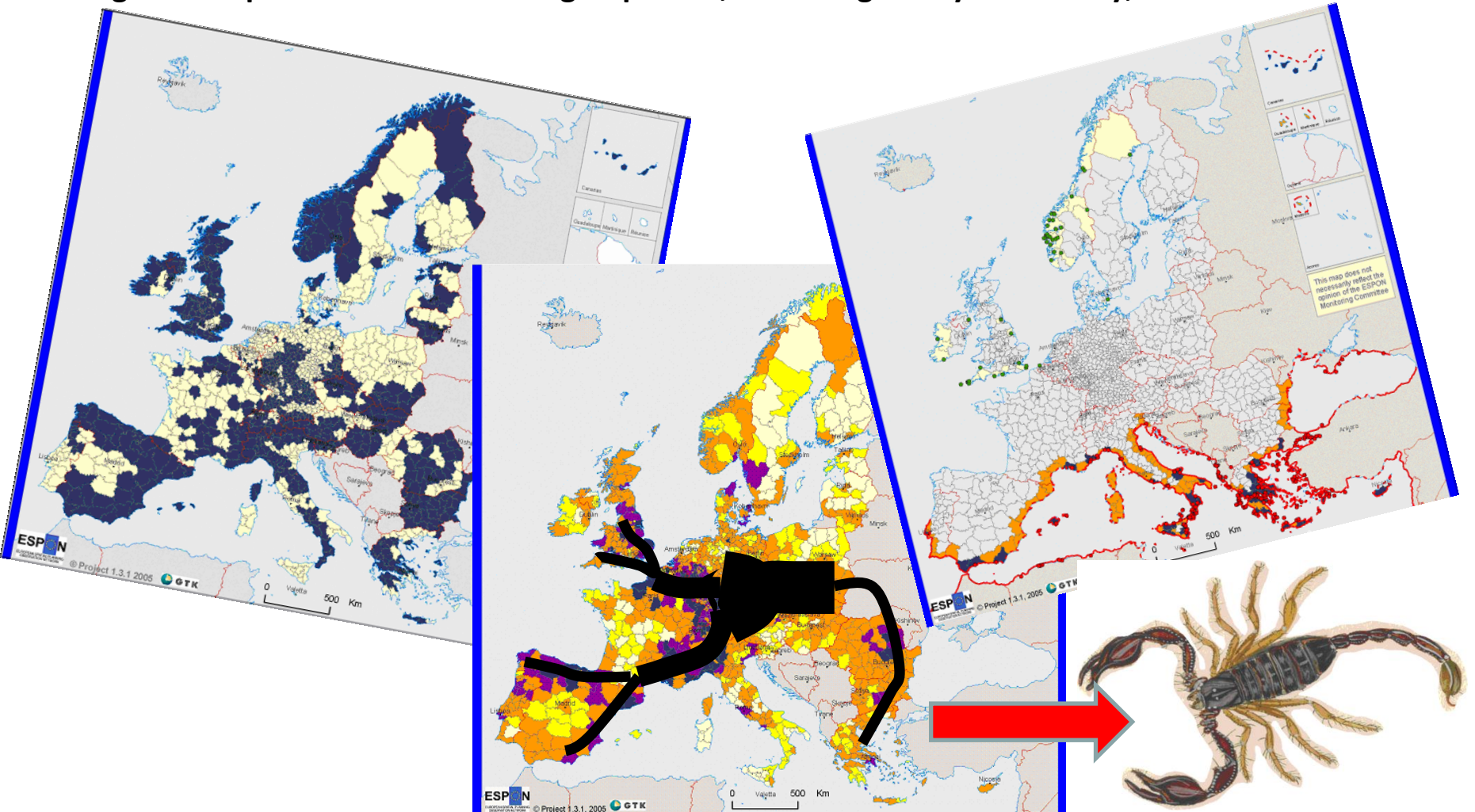
A. ON STRATEGY PLANNING 8: EU/EC COOPERATION WITH UN/UNDP/FAO BASED ON ISO 19144-2 (example FAO-GOOGLE coop.)



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B ON INFORMATION 1 – STOP “GARBAGE IN – GARBAGE OUT” – We need MS integrated data approach - remote (images from COPERNICUS) and in-situ data; as well as regular monitoring of changes and open source SDB smart geo-portals, based regionally and locally;



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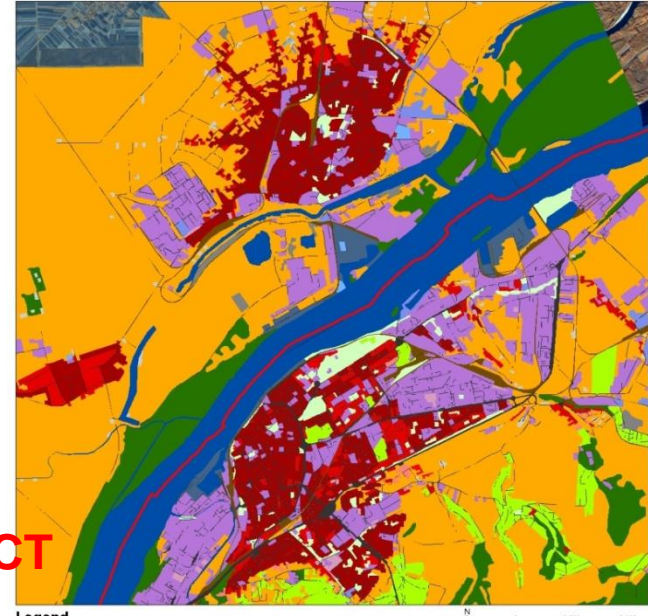
B ON INFORMATION 2 – STOP “GARBAGE IN – GARBAGE OUT” – We need MS integrated data approach - remote (images from COPERNICUS) and in-situ data; as well as regular monitoring of changes and open source SDB smart geo-portals, based regionally and locally;

Land cover of Rousse and Giurgiu according Urban atlas



WRONG

Land cover of Rouse and Giurgiu according Urban atlas



CORRECT

Legend

Urban atlas

Class

- Agricultural + Semi-natural areas + Wetlands
- Airports
- Construction sites
- Continuous Urban Fabric (S.L. > 80%)
- Discontinuous Dense Urban Fabric (S.L. : 50% - 80%)
- Discontinuous Low Density Urban Fabric (S.L. : 10% - 30%)
- Discontinuous Medium Density Urban Fabric (S.L. : 30% - 50%)
- Discontinuous Very Low Density Urban Fabric (S.L. < 10%)
- Fast transit roads and associated land

- Forests
- Green urban areas
- Industrial, commercial, public, military and private units
- Isolated Structures
- Land without current use
- Mineral extraction and dump sites
- Other roads and associated land
- Port areas
- Railways and associated land
- Sports and leisure facilities
- Water bodies
- Municipality of Rouse



Legend

Urban atlas

Class

- Agricultural + Semi-natural areas + Wetlands
- Airports
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B ON INFORMATION 3 – STOP “GARBAGE IN – GARBAGE OUT” – We need MS integrated data approach - remote (images from COPERNICUS) and in-situ data; as well as regular monitoring of changes and open source SDB smart geo-portals, based regionally and locally;

Guess what is it?

- Decontaminated mine field
- Dumpsite
- Archeological site
- Natural phenomenon (Kettle holes)



The answer is: Colonia Ulpia Ratiaria, the ancient capital of the roman Dacia Danubiana - completely destroyed by treasure hunters

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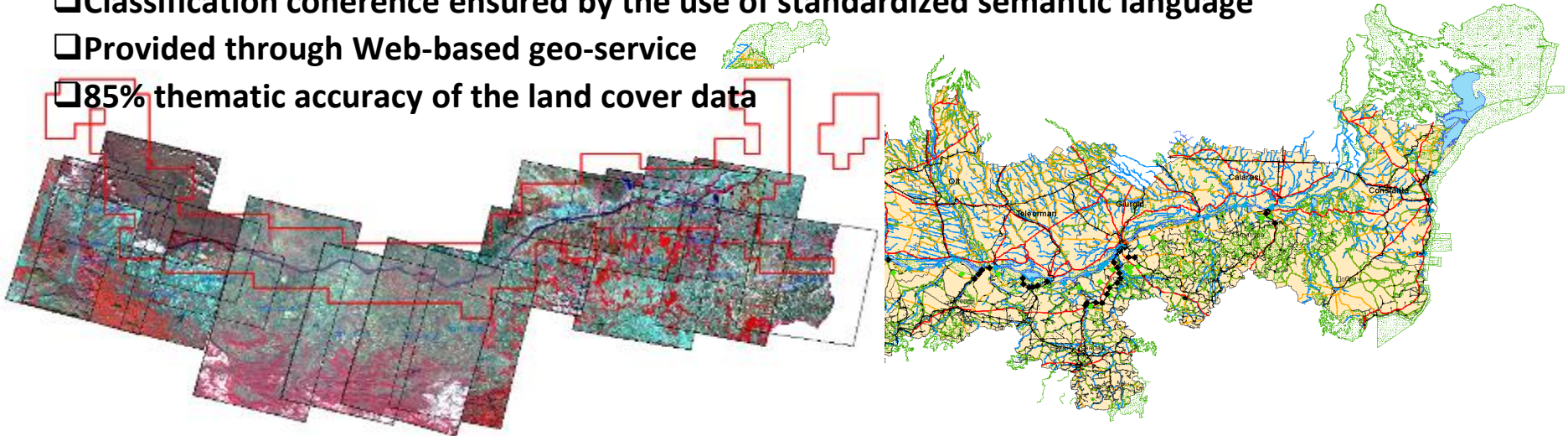
B ON INFORMATION 5– STOP “GARBAGE IN – GARBAGE OUT 4 - Operational capacity on regular monitoring of changes in LC/LU for integrated risk and territory management, using integrated SDB – remote (images from COPERNICUS) and in-situ data;

EXISTING SMART INNOVATIVE TOOLS AND OPERATIONAL CAPACITY

“SPATIAL” flagship project deliverables:

Two adjacent spatial datasets for the Bulgarian and Romanian part of the cross-border cooperation (CBC) project area

- Both national SDB various thematic layers fully interoperable following the INSPIRE principles
- Reference LC/LU layer based on ISO 19144-2 and COPERNICUS satellite images (ESA contribution) , for the needs of regular monitoring of changes
- Common specification ensuring efficient cross-border analysis and reporting
- Classification coherence ensured by the use of standardized semantic language
- Provided through Web-based geo-service
- 85% thematic accuracy of the land cover data



Bucharest, Romania;



B ON INFORMATION 6- STOP "GARBAGE IN – GARBAGE OUT 4 – THE MS (BG-RO+JRC) SOLUTION

Land use/ land cover concepts (INSPIRE 2007)

Land cover: Physical and biological cover of the earth's surface including artificial surfaces, agriculture areas, forests, (semi-) natural areas, wetlands, water bodies.

Land Use: Territory characterised according to its current and future planned functional or socio-economic purpose (e.g. residential, industrial, commercial, agricultural, forestry, recreational)

Two key concept in land monitoring that have never been properly managed in most of the land inventory initiatives

The two sides of the same coin

Land use:

Archeological site – Ancient Roman City

Sources of information:
National Cadastre
Register of National Monuments

Land cover:

Bare area with sparse vegetation and impoundments of anthropogenic origin

Sources of information:
Field visits
Satellite and aerial imagery

A monument of international importance that is completely devastated by lack of governance, lack of accurate data information, lack of monitoring

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Use of LPIS and COPERNICUS data in the elaboration of trans-border reference land cover datasets

Example from CBC Project MIS-ETC 171 "Common Strategy for Sustainable Territorial Development of the cross-border area Romania-Bulgaria" – in support to Data Harmonization and Regular Changes Detection in Urbanized Areas of EU Conurbations

Pavel Milenov, Vassil Vassilev, Anna Vassileva, Radko Radkov Zlatomir Dimitrov, Nadya Tsvetkova, Konstantin Stefanov
Agency for Sustainable Development and Eurointegration Remote Sensing Application Center - ReSAC

Work Package 3 – Development of common resources for a territorial planning analysis and strategy

Setup and development of systems and information services allowing the integration of the new, harmonized spatial land-related databases and services with the existing information systems at local and regional levels.

The database will ensure the necessary land cover data for a comprehensive set of indicators at the level of NUTS 3, 2 and LAU (local administration unit)

As the land cover database will hold a detailed characterisation of rural areas and the transitional urban/rural zones, it will be able to highlight the capacity of the LPIS to provide information on Ecological Focusing Areas (EFAs)

Project Area

One of the longest borders within the EU stretching for 610 km, largely demarcated by the course of the River Danube.

16 regional districts with a total surface of 71 300 sq. km, of which 50% is in Romania and 45% is in Bulgaria. The cross-border area covers 20.0% of the total area of the two countries.

19th MARS Conf: New CAP management control, 3-4-12-2013, Vilnius, Lithuania
URBAN-NEXUS Final Conference; Brussels, 18.06.2014

Distinct features of the Bulgarian LPIS

Multilayer system, based on production (physical) block

- Reference parcel + eligibility layer
- ReferenceArea calculated on-the-fly
- Type of land use code assigned to each reference parcel

Covers the whole territory

- Properties inherited from the land reclamation plans
- Reference parcels with zero ReferenceArea on non-agricultural land
- Differentiation between non-agriculture classes (forest, water bodies, urban areas)

Fig. 1: Area of the CBC project

Fig. 3: Bulgarian LPIS – thematic map based on type of land use

Reference land cover layer

Uniquely defined geo-referenced units of management, holding the information on the nature of land cover and the type of land use.

Created and updated on the base of:

- Classification concepts of ISO 15144-2 (Land Cover Meta Language – LCML) and Annex F of INSPIRE Data Specifications on Land Cover
- Best management practices from the Land Parcel Identification System (LPIS) that channels all EU area-based aids in agriculture
- COPERNICUS CORE satellite image datasets in combination with spatial information from the LPIS and the national orthophoto
- Methodology elaborated in collaboration with the MARS Unit of the Joint Research Centre of the European Commission

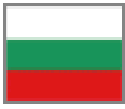
Expected Deliverables

Two adjacent reference land cover dataset for the Bulgarian and Romanian part of the cross-border cooperation (CBC) project area

- Both layers fully interoperable following the INSPIRE principles
- Common specification ensuring efficient cross-border analysis and reporting
- Classification coherence ensured by the use of standardized semantic language
- Spatial objects compliant with LPIS concept of "management unit"
- Provided through Web-based geo-service
- Two products are expected – basic at scale 1:5 000 and aggregated at scale 1:25 000

Fig. 2: Mosaic of orthorectified RapidEye imagery from Core 01 dataset

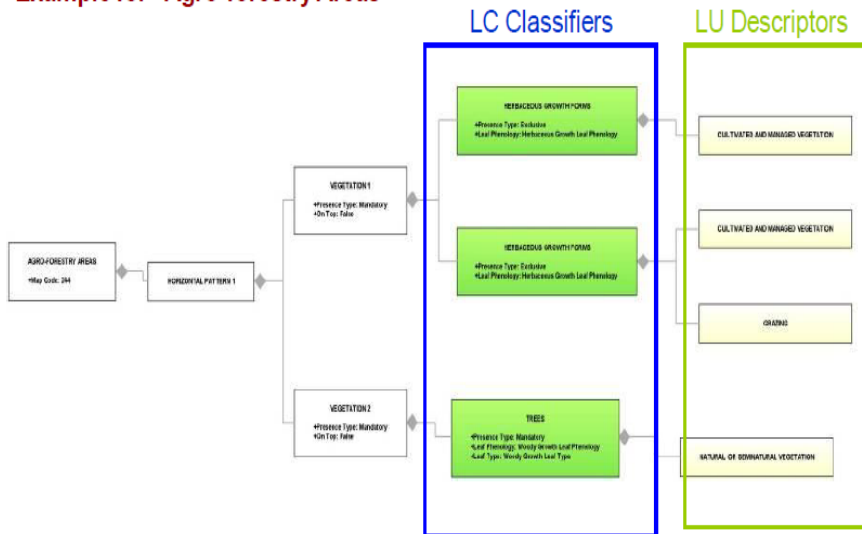
Fig. 4: First results of the reference land cover dataset for the Bulgarian territory provided through the Geoportal as WMS



B ON INFORMATION 7- STOP "GARBAGE IN - GARBAGE OUT" - THE MS (BG-RO+JRC) SOLUTION

LCML concept already tested and operationally deployed within the EU Common Agriculture Policy (EU CAP)

Example for "Agro-forestry Areas"



Data harmonization

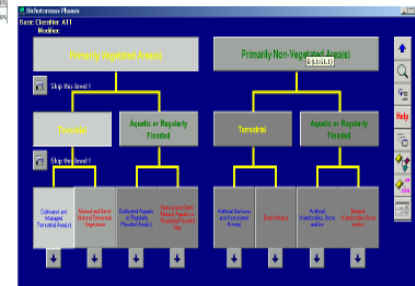
Local land cover nomenclatures, described with national connotations

Land Cover Class	Land cover Class Definition	Minimum Mapped Area (ha)	Minimum Mapped Area (ha)	Minimum Mapped Area (ha)
000	Empty	0.00	0.00	0.00
010	Water	0.00	0.00	0.00
020	Water	0.00	0.00	0.00
030	Water	0.00	0.00	0.00
040	Water	0.00	0.00	0.00
050	Water	0.00	0.00	0.00
060	Water	0.00	0.00	0.00
070	Water	0.00	0.00	0.00
080	Water	0.00	0.00	0.00
090	Water	0.00	0.00	0.00
100	Water	0.00	0.00	0.00
110	Water	0.00	0.00	0.00
120	Water	0.00	0.00	0.00
130	Water	0.00	0.00	0.00
140	Water	0.00	0.00	0.00
150	Water	0.00	0.00	0.00
160	Water	0.00	0.00	0.00
170	Water	0.00	0.00	0.00
180	Water	0.00	0.00	0.00
190	Water	0.00	0.00	0.00
200	Water	0.00	0.00	0.00
210	Water	0.00	0.00	0.00
220	Water	0.00	0.00	0.00
230	Water	0.00	0.00	0.00
240	Water	0.00	0.00	0.00
250	Water	0.00	0.00	0.00
260	Water	0.00	0.00	0.00
270	Water	0.00	0.00	0.00
280	Water	0.00	0.00	0.00
290	Water	0.00	0.00	0.00
300	Water	0.00	0.00	0.00
310	Water	0.00	0.00	0.00
320	Water	0.00	0.00	0.00
330	Water	0.00	0.00	0.00
340	Water	0.00	0.00	0.00
350	Water	0.00	0.00	0.00
360	Water	0.00	0.00	0.00
370	Water	0.00	0.00	0.00
380	Water	0.00	0.00	0.00
390	Water	0.00	0.00	0.00
400	Water	0.00	0.00	0.00
410	Water	0.00	0.00	0.00
420	Water	0.00	0.00	0.00
430	Water	0.00	0.00	0.00
440	Water	0.00	0.00	0.00
450	Water	0.00	0.00	0.00
460	Water	0.00	0.00	0.00
470	Water	0.00	0.00	0.00
480	Water	0.00	0.00	0.00
490	Water	0.00	0.00	0.00
500	Water	0.00	0.00	0.00
510	Water	0.00	0.00	0.00
520	Water	0.00	0.00	0.00
530	Water	0.00	0.00	0.00
540	Water	0.00	0.00	0.00
550	Water	0.00	0.00	0.00
560	Water	0.00	0.00	0.00
570	Water	0.00	0.00	0.00
580	Water	0.00	0.00	0.00
590	Water	0.00	0.00	0.00
600	Water	0.00	0.00	0.00
610	Water	0.00	0.00	0.00
620	Water	0.00	0.00	0.00
630	Water	0.00	0.00	0.00
640	Water	0.00	0.00	0.00
650	Water	0.00	0.00	0.00
660	Water	0.00	0.00	0.00
670	Water	0.00	0.00	0.00
680	Water	0.00	0.00	0.00
690	Water	0.00	0.00	0.00
700	Water	0.00	0.00	0.00
710	Water	0.00	0.00	0.00
720	Water	0.00	0.00	0.00
730	Water	0.00	0.00	0.00
740	Water	0.00	0.00	0.00
750	Water	0.00	0.00	0.00
760	Water	0.00	0.00	0.00
770	Water	0.00	0.00	0.00
780	Water	0.00	0.00	0.00
790	Water	0.00	0.00	0.00
800	Water	0.00	0.00	0.00
810	Water	0.00	0.00	0.00
820	Water	0.00	0.00	0.00
830	Water	0.00	0.00	0.00
840	Water	0.00	0.00	0.00
850	Water	0.00	0.00	0.00
860	Water	0.00	0.00	0.00
870	Water	0.00	0.00	0.00
880	Water	0.00	0.00	0.00
890	Water	0.00	0.00	0.00
900	Water	0.00	0.00	0.00
910	Water	0.00	0.00	0.00
920	Water	0.00	0.00	0.00
930	Water	0.00	0.00	0.00
940	Water	0.00	0.00	0.00
950	Water	0.00	0.00	0.00
960	Water	0.00	0.00	0.00
970	Water	0.00	0.00	0.00
980	Water	0.00	0.00	0.00
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Local land cover nomenclatures, translated with LCML

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100	Water	0.00	0.00	0.00
110	Water	0.00	0.00	0.00
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170	Water	0.00	0.00	0.00
180	Water	0.00	0.00	0.00
190	Water	0.00	0.00	0.00
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440	Water	0.00	0.00	0.00
450	Water	0.00	0.00	0.00
460	Water	0.00	0.00	0.00
470	Water	0.00	0.00	0.00
480	Water	0.00	0.00	0.00
490	Water	0.00	0.00	0.00
500	Water	0.00	0.00	0.00
510	Water	0.00	0.00	0.00
520	Water	0.00	0.00	0.00
530	Water	0.00	0.00	0.00
540	Water	0.00	0.00	0.00
550	Water	0.00	0.00	0.00
560	Water	0.00	0.00	0.00
570	Water	0.00	0.00	0.00
580	Water	0.00	0.00	0.00
590	Water	0.00	0.00	0.00
600	Water	0.00	0.00	0.00
610	Water	0.00	0.00	0.00
620	Water	0.00	0.00	0.00
630	Water	0.00	0.00	0.00
640	Water	0.00	0.00	0.00
650	Water	0.00	0.00	0.00
660	Water	0.00	0.00	0.00
670	Water	0.00	0.00	0.00
680	Water	0.00	0.00	0.00
690	Water	0.00	0.00	0.00
700	Water	0.00	0.00	0.00
710	Water	0.00	0.00	0.00
720	Water	0.00	0.00	0.00
730	Water	0.00	0.00	0.00
740	Water	0.00	0.00	0.00
750	Water	0.00	0.00	0.00
760	Water	0.00	0.00	0.00
770	Water	0.00	0.00	0.00
780	Water	0.00	0.00	0.00
790	Water	0.00	0.00	0.00
800	Water	0.00	0.00	0.00
810	Water	0.00	0.00	0.00
820	Water	0.00	0.00	0.00
830	Water	0.00	0.00	0.00
840	Water	0.00	0.00	0.00
850	Water	0.00	0.00	0.00
860	Water	0.00	0.00	0.00
870	Water	0.00	0.00	0.00
880	Water	0.00	0.00	0.00
890	Water	0.00	0.00	0.00
900	Water	0.00	0.00	0.00
910	Water	0.00	0.00	0.00
920	Water	0.00	0.00	0.00
930	Water	0.00	0.00	0.00
940	Water	0.00	0.00	0.00
950	Water	0.00	0.00	0.00
960	Water	0.00	0.00	0.00
970	Water	0.00	0.00	0.00
980	Water	0.00	0.00	0.00
990	Water	0.00	0.00	0.00

Land Cover Meta Language (LCML)



Input of the local land cover nomenclature

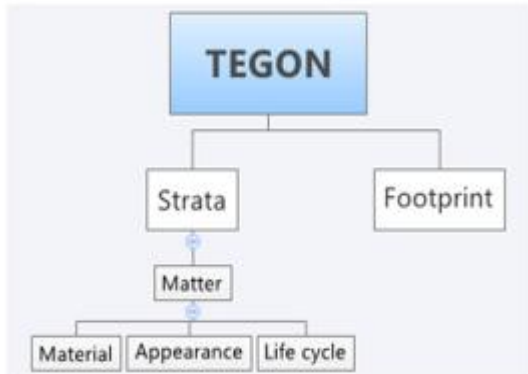
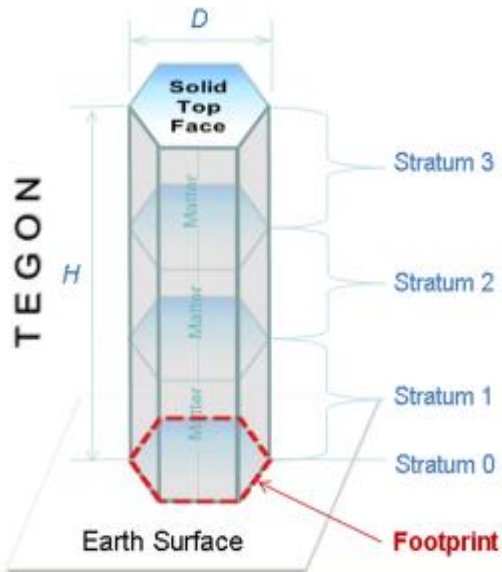
LCMS codes generated for each land cover class



B. ON INFORMATION 8 – STOP “GARBAGE IN – GARBAGE OUT”

TWO UNIQUE BASIC ELEMENTS, INTERPRETING FUNCTIONAL & CARTOGRAPHIC MIX for Regular Monitoring of Changes

TEGON CONCEPT – JRC-IES-MARS UNIT



COMMON BASIC IDEA:

1.Import LCCS Class from FAO Legend

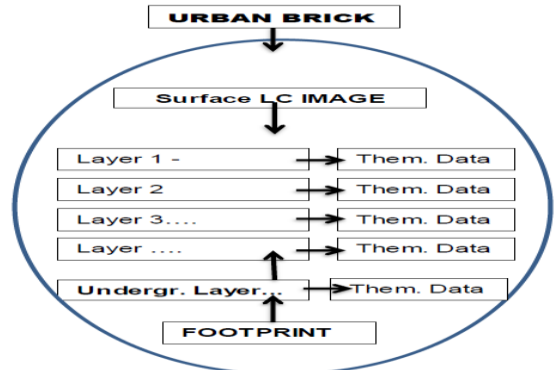
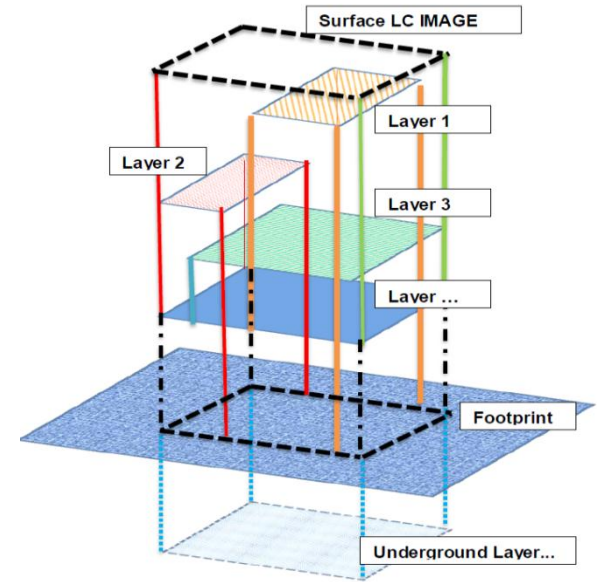
2.Decompose the LCCS class using TEGON or URBAN-BRICK concept:

- Analyze the presence of cartographic or functional mix
- Filter out land use descriptors

3.Design of LC type with LCML

4.Convert relevant spatial data to the new LC type

URBAN BRICK DRAFT CONCEPT – ASDE



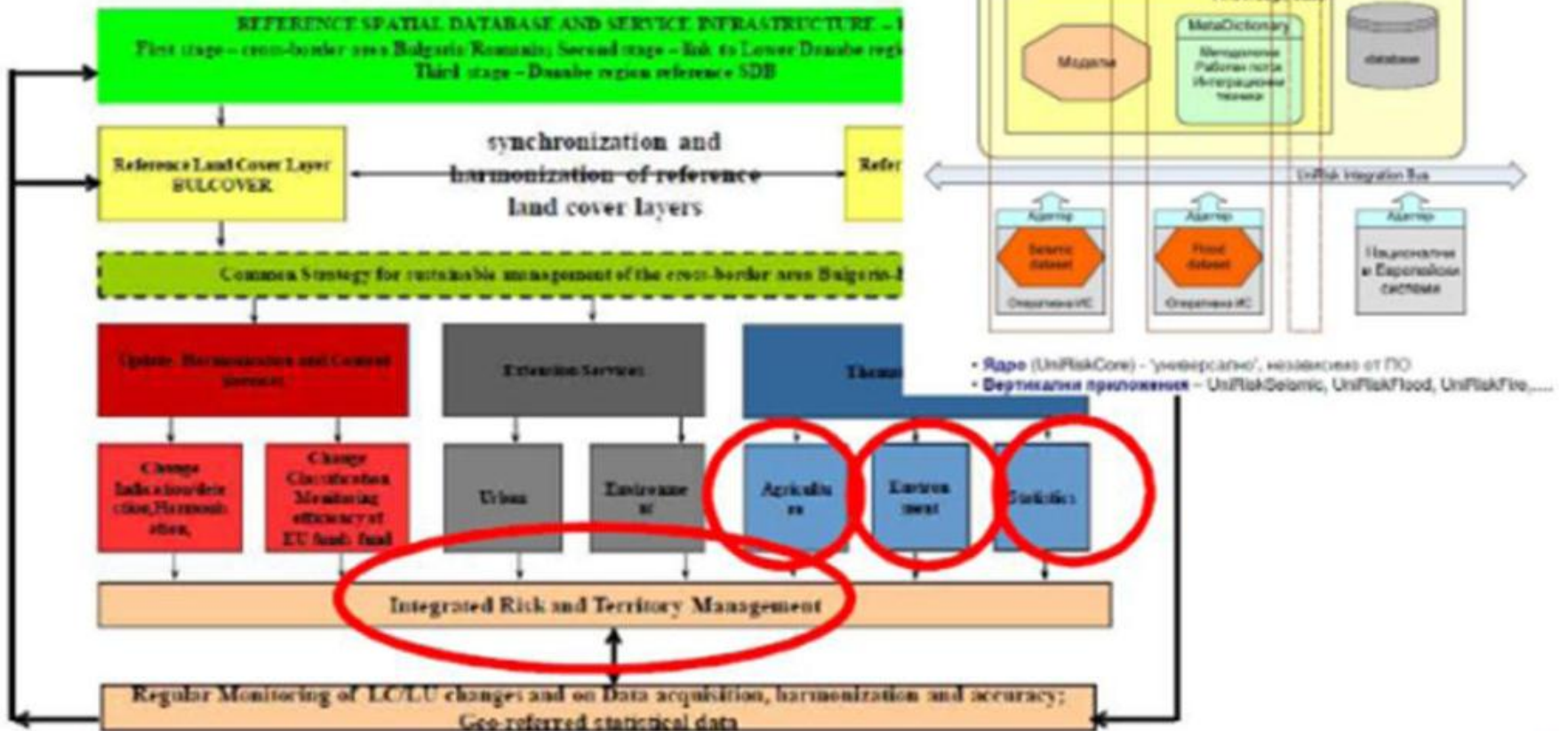
Bucharest, Romania;



B. ON INFORMATION 9 – STOP “GARBAGE IN – GARBAGE OUT” 4 Proposed solution - for European Resilience Reference Data Infrastructure – **THE UNIRISK PLATFORM**



UNIRISK PLATFORM -COMMON SMART ARCHITECTURE



Bucharest, Romania;



C. ON OPERATIONAL CAPACITY 3 - WE CAN! – Support to Directive 60/2007/EU – Regions with significant flood risk for the Danube area

Приложение 2

Райони със значителен потенциален риск от наводнения по чл. 146г от ЗВ в Дунавски район за басейново управление

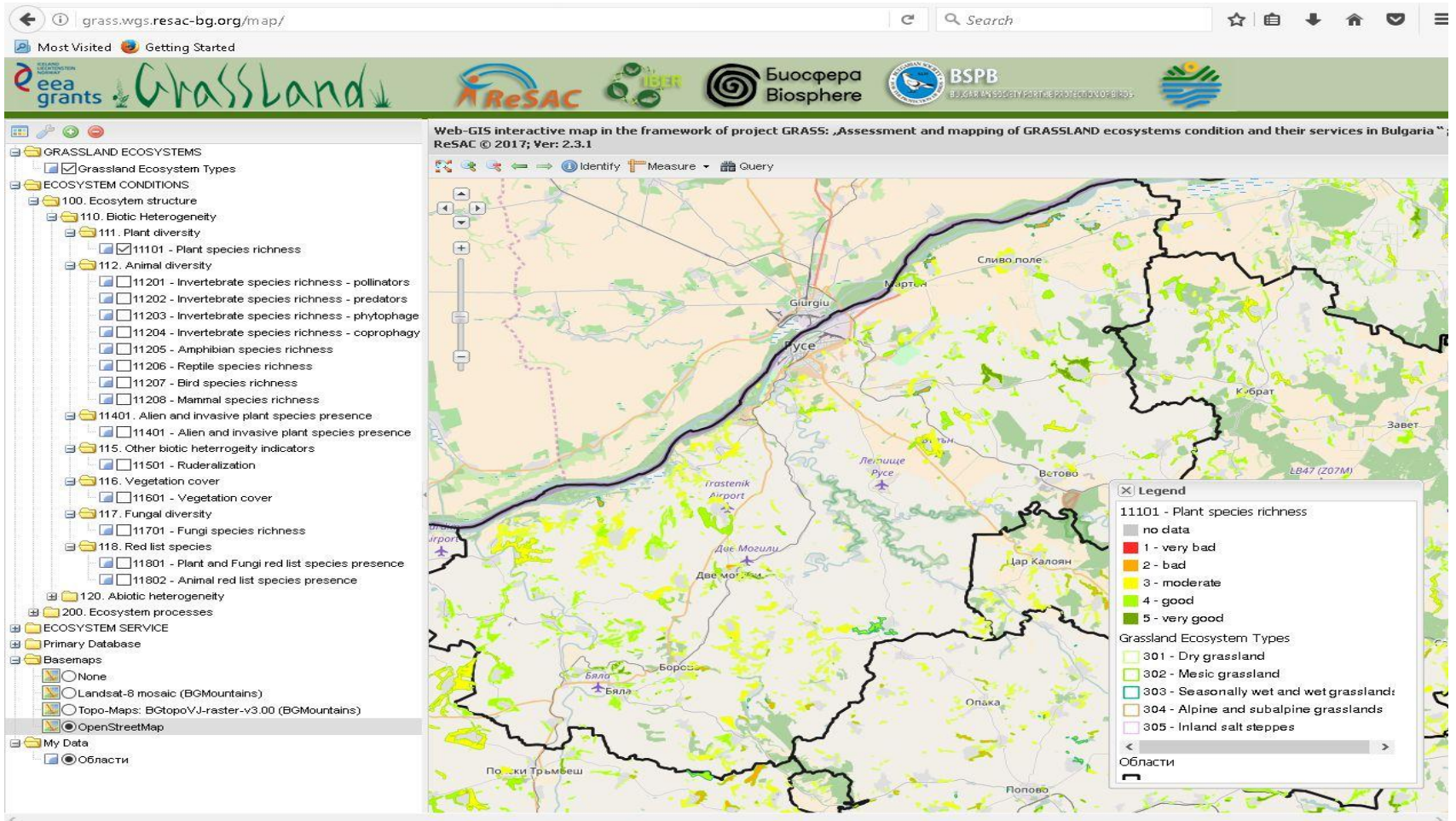


РЗПРН в Дунавски район		Основни поречия	
— висок	— среден	● Населени места в РЗПРН	
■ Ерма	■ Нишава	■ Реки западно от р.Огоста	■ Огоста
■ Вит	■ Осъм	■ Янтра	■ Русенски Лом
		■ Искър	■ Дунавски Добруджански реки

Bucharest, Romania;



C. ON OPERATIONAL CAPACITY 4- WE CAN! – support to CAP/Regional policy, environment, etc... GRASS ECOSYSTEMS AND THEIR SERVICES

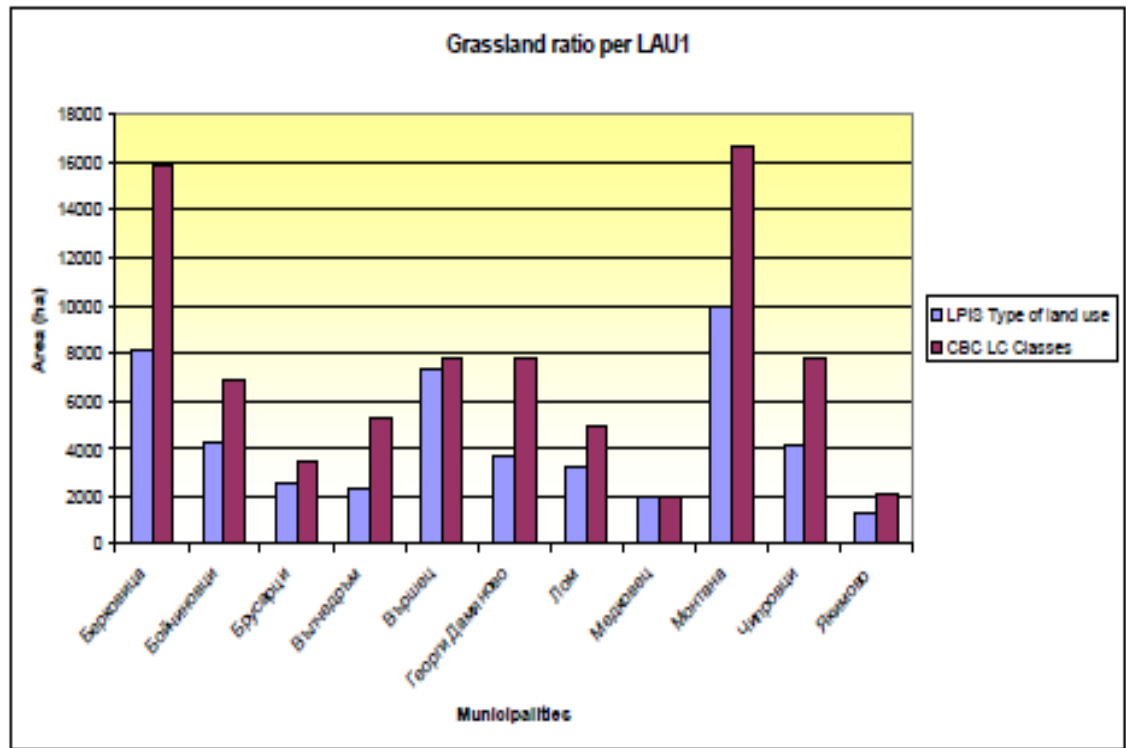
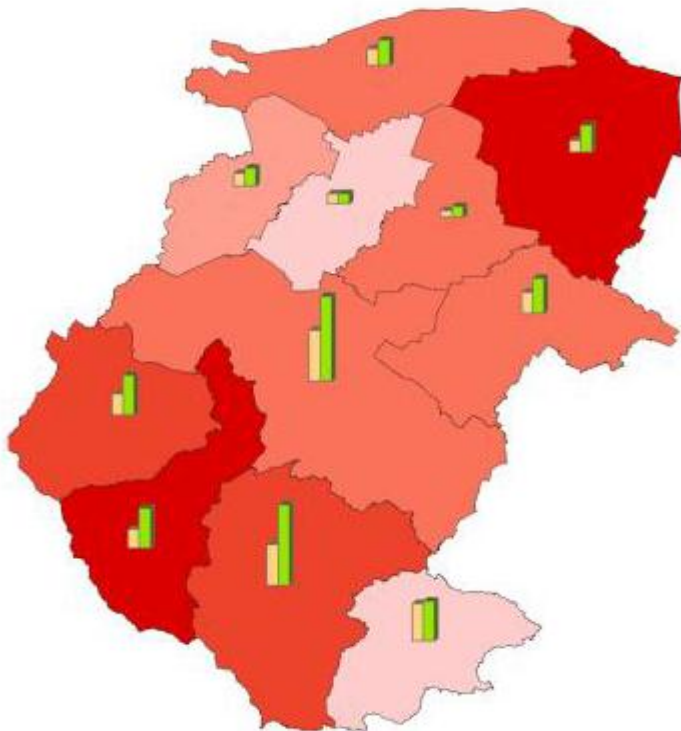


Bucharest, Romania;



C. ON OPERATIONAL CAPACITY 5 - WE CAN! – support to CAP policy, environment, etc... ESTABLISHED DIFFERENCES IN THE ASSESSMENT OF PASTURES BY MUNICIPALITIES – DECLARED AND OBJECTIVE STATUS

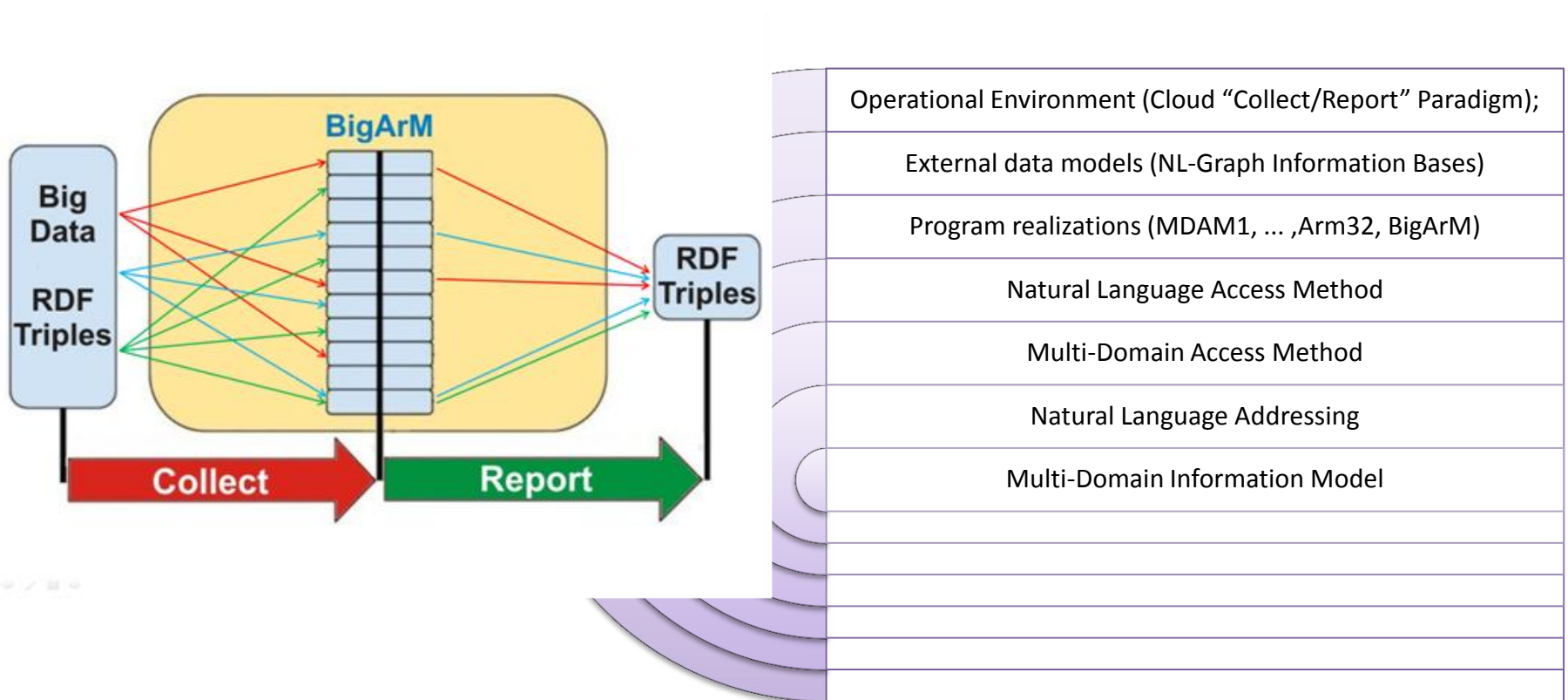
Montana district



Bucharest, Romania;



C.ON OPERATIONAL CAPACITY 6- Storing Big Data using Natural Language Graph Information Bases (NLGIB) - Proposed approach for Big Data Management from the Bulgarian expert group (ASDE&ITHEA®)





C. OPERATIONAL CAPACITY 7: HARMONISED SmartSDB (EU DIR.–INSPIRE and ISO 19144-2 based SMARTCOVER INTEGRATED SDB)+ HIGH PERFORMANCE COMPUTING and BIG DATA ENABLED APPLICATIONS (based on the IPCEI-HPC-BDA/PRACE European strategic initiatives; incl. the JRC Earth Observation Data and Processing Platform and a future Regional Big Data Risk Applications Cloud

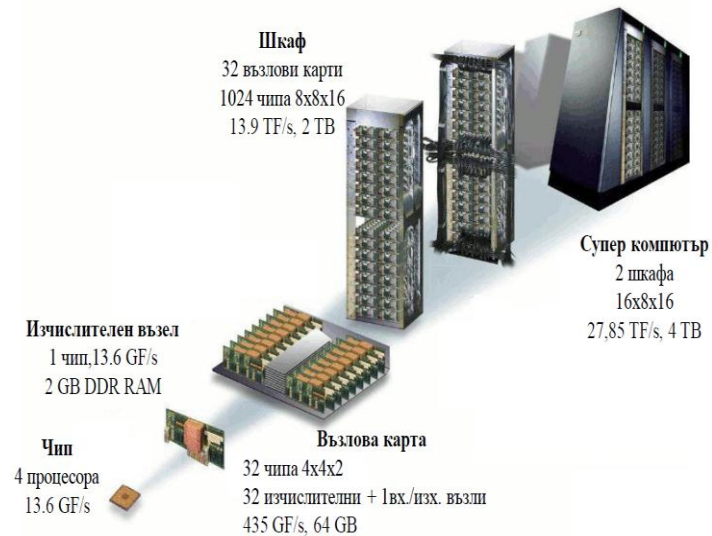
INTEGRATED INFRASTRUCTURE – 6 + 2 SUPERCOMPUTERS (France, Germany, Italy and Spain) + one(two) in Bulgaria –SAEG and BAS.

– “IPCEI-HPC-BDA +Partnership for Advanced Computing in Europe (PRACE)”

IPCEI-HPC-BDA



CONFIGURATION OF IBM BLUE GENE/P – Bulgaria (2008)

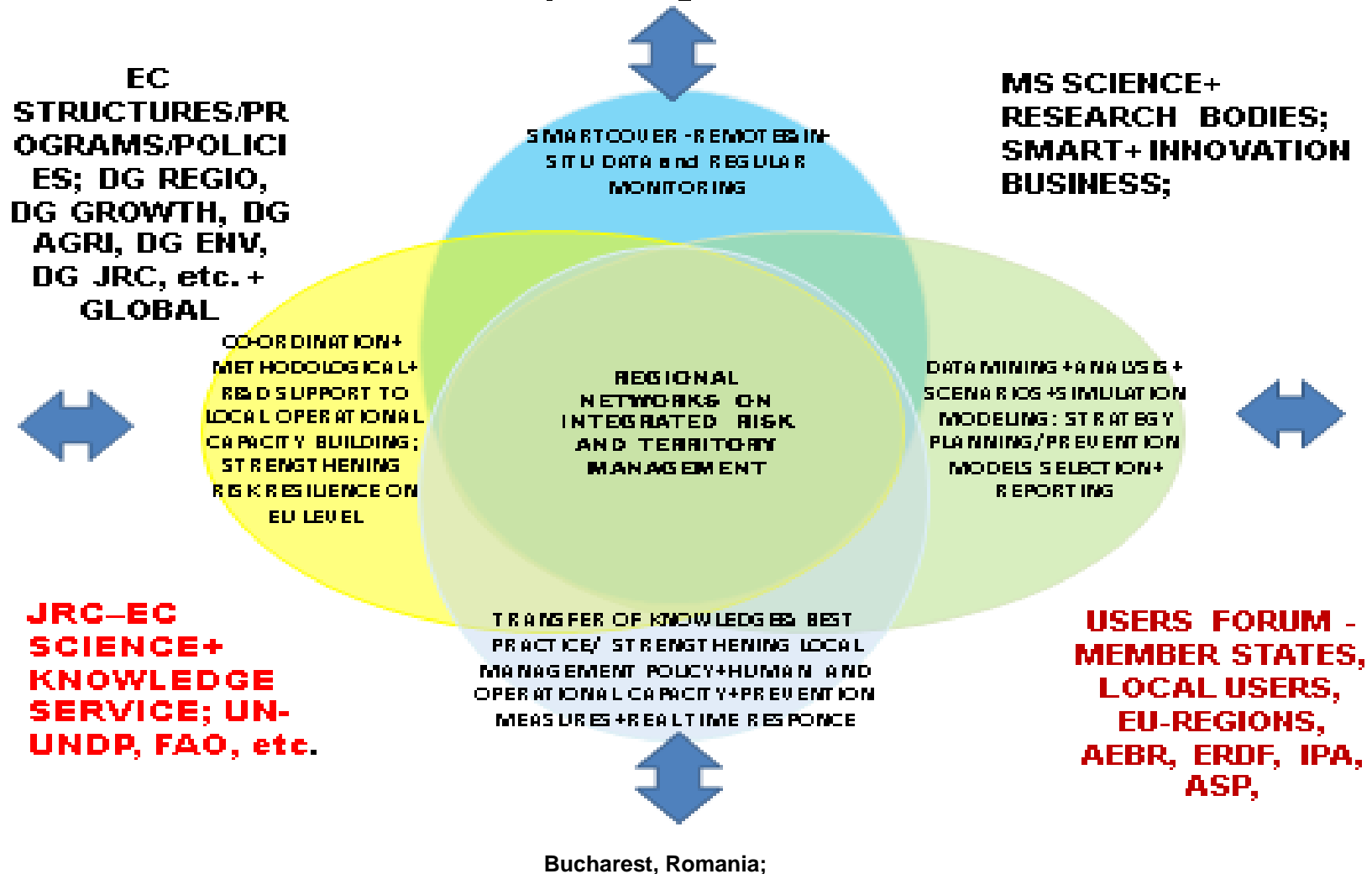


Bucharest, Romania;



D. ON MANAGEMENT 1: REGIONAL NETWORK + JRC COLLABORATION

Draft Concept – Organization Scheme





D. ON MANAGEMENT 2: SMART INNOVATION TOOLS – APPLYING JRC SUPPORT - Resilience and growth depend on INTEGRATED APPROACH and complexity competence – JRC Annual Conference, Brussels, October, 2016;



Knowledge Centre for Territorial Policies

What ... (to start with ..)

SMART SPECIALISATION PLATFORM

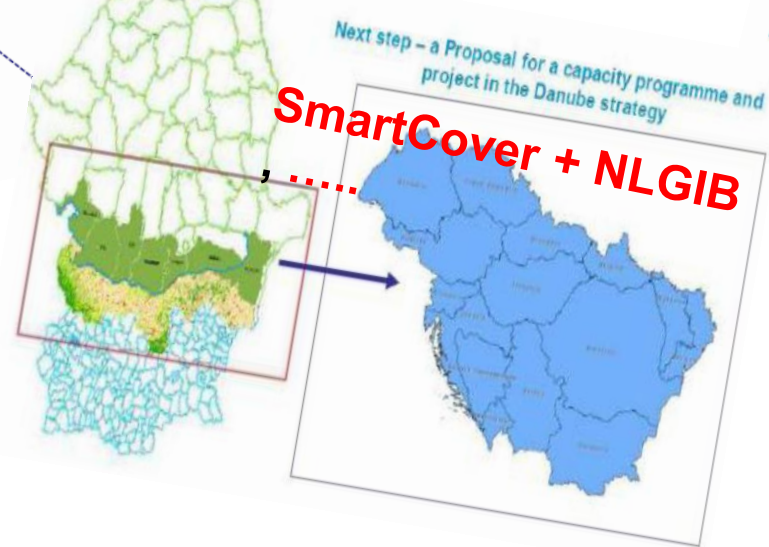
LUiSA Territorial Modelling Platform

RHOLO Dynamic Spatial Generation for EU Regions and Sector

DRDSI

DANUBE REFERENCE DATA AND SERVICES INFRASTRUCTURE

iMAP

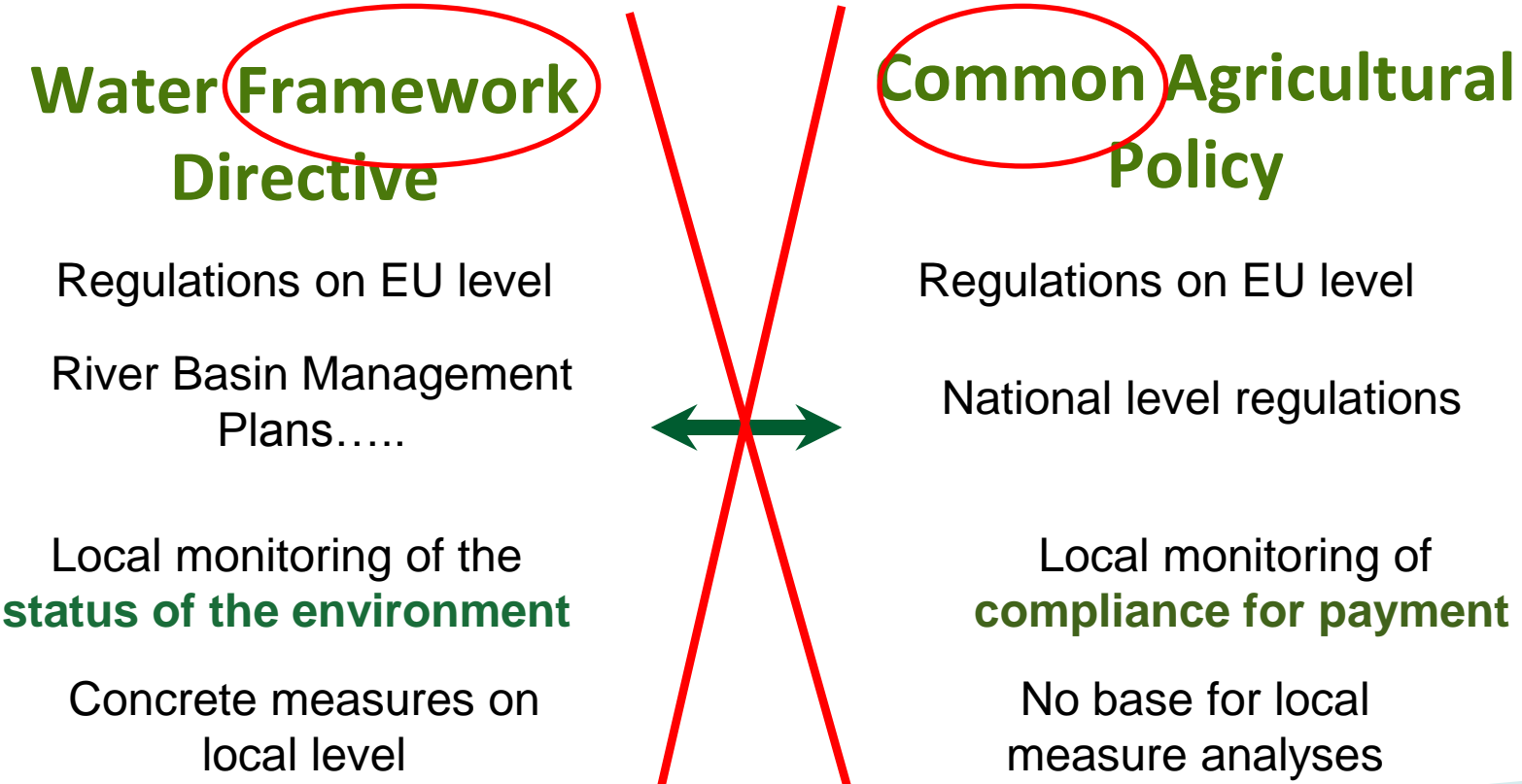


EMM, EFFIS, EFAS



D. ON MANAGEMENT 3: INTEGRATED EU POLICIES APPROACH – Avoiding duplication; Complexity competence applying JRC support - Resilience and growth depend – Ispra, April, 2017;

ReSAC – 2017 – DG JRC



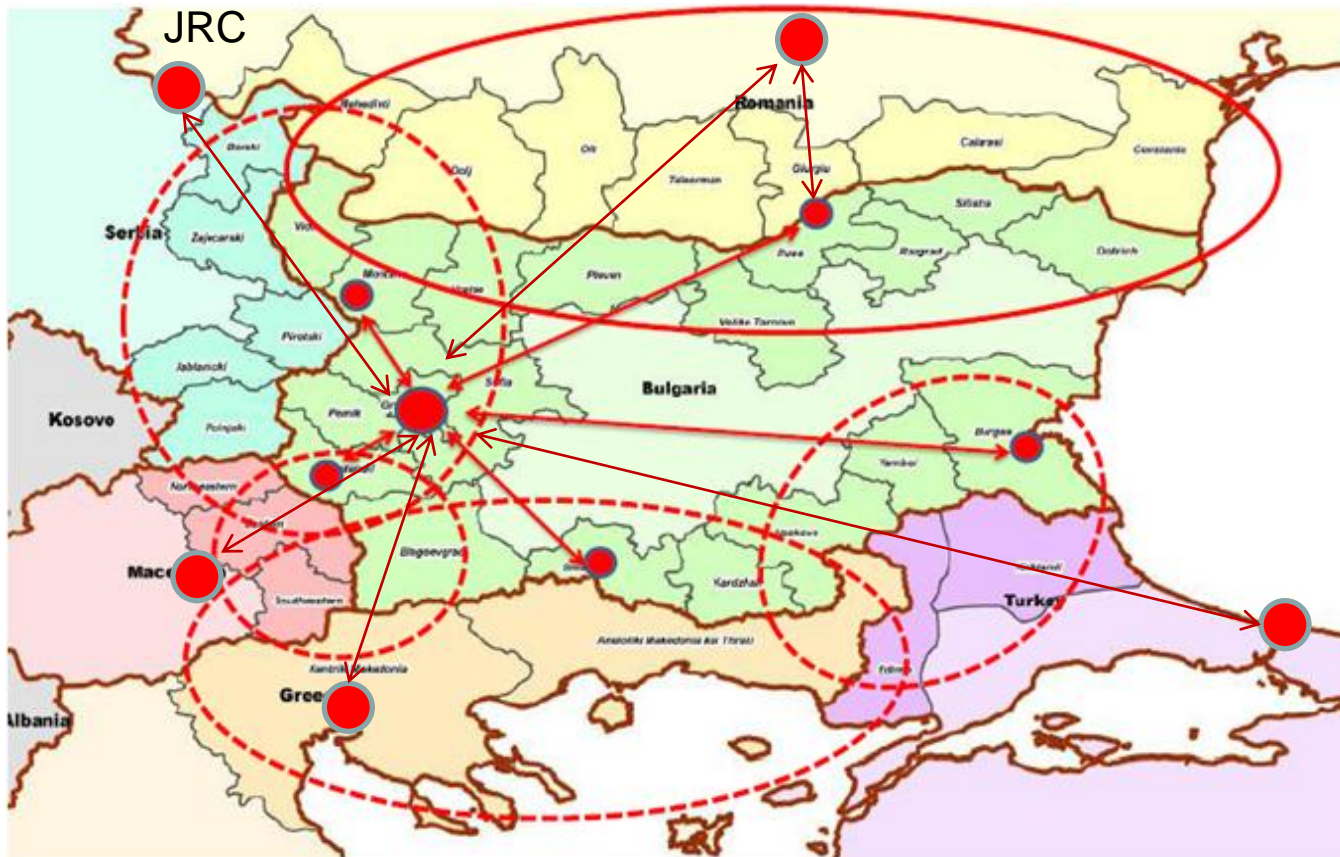
Regional integrated approach: Vassilev 2016 + Vadineanu, 2004



D. ON MANAGEMENT 4: **DECENTRALIZATION** - REGIONAL NETWORK FOR INTEGRATED RISK AND TERRITORY MANAGEMENT – BALKAN NETWORK

TARGET 1: Strengthening EU macro-regional resilience in a globalized world – EU regional integrated risk&territory centers network – JRC methodological support

THE FIRST EUROPEAN TRANS-BORDER RESILIENCE RING/NET – maximizing COPERNICUS impact - SOUTH EAST EUROPEAN RISK AND TERRITORY REFERENCE DATA AND SERVICES INFRASTRUCTURE (INTEGRATED BIG DATA, HIGH PERFORMANCE COMPUTING, PREVENTION ANALYSIS/GAMIFICATION AND REGULAR MONITORING) – currently Trans-border reference SDB and SmartCover Architecture geo-portal for Bulgaria and Romania; next step – Bulgaria-Macedonia, Bulgaria-Serbia, Bulgaria-Greece and Bulgaria-Turkey); Possibility to include also Moldova and Ukraine; Third step –Danube region countries; Forth step



Bucharest, Romania;



D. ON MANAGEMENT 5: **DECENTRALIZATION** - REGIONAL NETWORK FOR INTEGRATED RISK AND TERRITORY MANAGEMENT – DANUBE REGION /SEE NETWORK



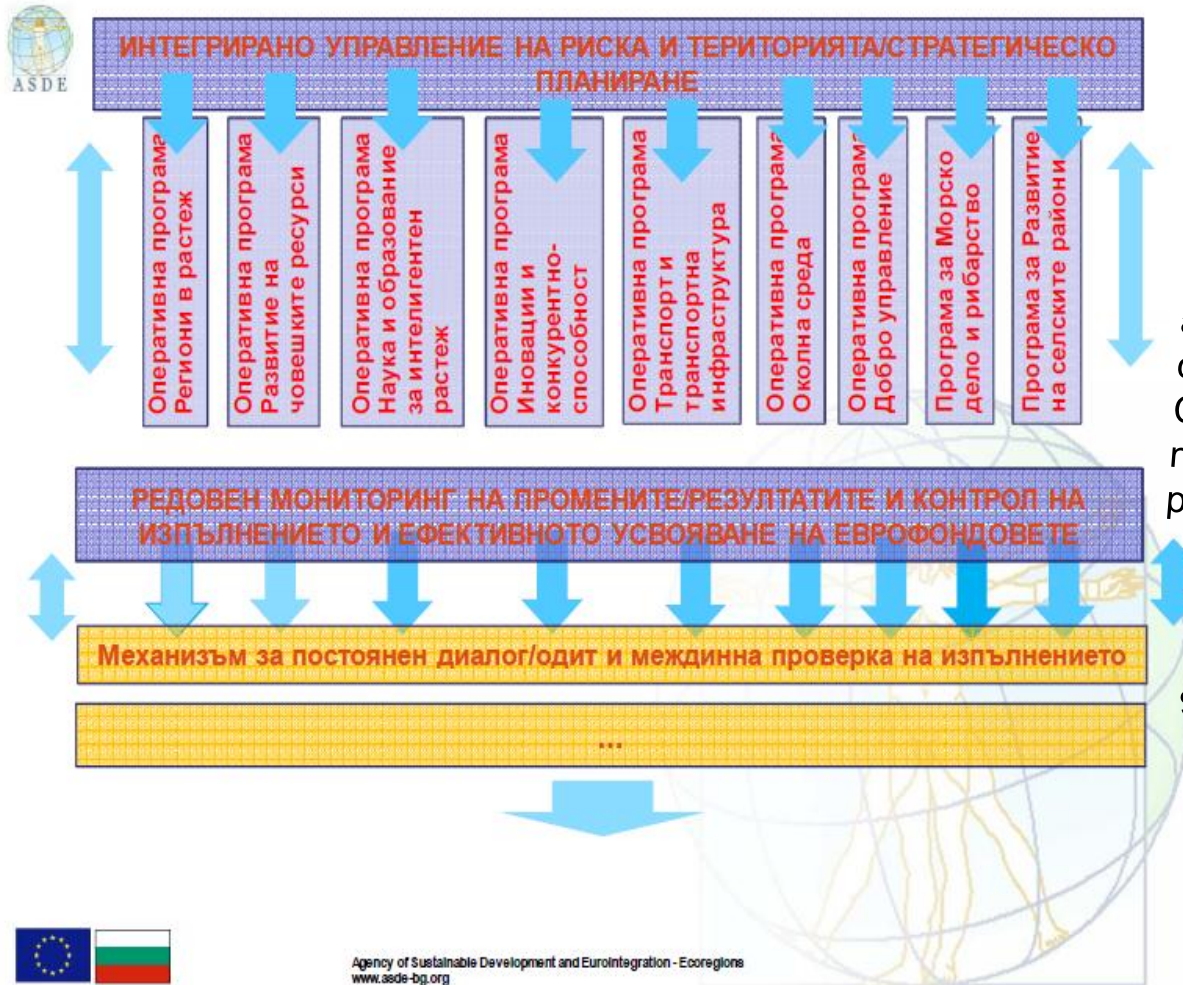
EU NETWORK OF REGIONAL CENTERS FOR INTEGRATED MANAGEMENT OF RISK, TERRITORY AND CITIZENS SECURITY IN SUPPORT TO THE EU MACRO REGIONAL STRATEGIES AND POLICIES OF

Bucharest, Romania;

THE FIRST PAN-EUROPEAN TRANS-BORDER RESILIENCE RING/NET – maximizing COPERNICUS impact - SOUTH EAST EUROPEAN RISK AND TERRITORY REFERENCE DATA AND SERVICES INFRASTRUCTURE (INTEGRATED BIG DATA, HIGH PERFORMANCE COMPUTING, PREVENTION ANALYSIS/GAMIFICATION AND REGULAR MONITORING) – currently Trans-border reference SDB and SmartCover Architecture geo-portal for Bulgaria and Romania; next step – Bulgaria-Macedonia, Bulgaria-Serbia, Bulgaria-Greece and Bulgaria-Turkey); Possibility to include also Moldova and Ukraine; Third step –Danube region countries; Forth step



E. ON AUDITING – RESULTS! “3E” – ECONOMY, EFFICACY, EFFICIENCY - INSTEAD ASSESSING ONLY “PAPER WORK”



The European Commission needs to further strengthen its governance right across the institution to address key risks, according to a new report from the European Court of Auditors. The auditors say that recent organisational reforms at the Commission go some way towards addressing the so-called “silo” culture, but that in several areas, the Commission diverges from, or does not fully adhere to, international best practice. *European Court of Auditors*

Selon la Cour des comptes, le programme spatial européen Copernicus bénéficie plus aux géants internationaux du numérique, dont Google, qu'aux entreprises européennes. *La Tribune*





F. 3-d EU OPERATIONAL CAPACITY WORKSHOP – SOFIA, 2017/2018

Under a collaboration between the European Commission , the Bulgarian government, research and NGO's structures, **two European Workshops for Operational Capacity have been realized in Sofia, Bulgaria - 2010, 2011;**

With an order (R-94, 20.05.2015) of the PM of Bulgaria – Mr. Boyko Borisov, an Interdepartmental Working Group (IWG) was created. Its final report and the results of the two EU workshops in 2010 and 2011, are supporting the proposal for a **network for regional structures** , with a first step - the **REGIONAL STRUCTURE(CENTRE) FOR INTEGRATED RISK AND TERRITORY MANAGEMENT FOR SOUTH EAST EUROPE(SEE) IN BULGARIA;**

With the approval of the PM of Bulgaria, the initiative for the preparation and realization of the **Third European Workshop for operational capacity for integrated risk and territory management in 2017/2018**, will be started. This activity will be co-ordinated with the BG presidency of the Council of Europe. It is expected that during the workshop, the Regional structure for Integrated Risk and Territory Management for SEE will be discussed and launched .



Lost -Found(hopefully) Capacity

This is not **Darth Vader** base – this is a **Jedi**
Ground Satellite Station PLANA- 40 km
from Sofia



Thank you!

office@asde-bg.org;

k.milenov@stalkerkm.com

www.asde-bg.org;

www.bsdi.asde-bg.org ,

www.gmes-bg.org

resac@techno-link.com;

www.resac-bg.org;

<http://grasslands-ecoservices-bg.eu/index.php/en/>

Bucharest, Romania;