COLLECTION AND USE OF INTEGRATED MARITIME DATA IN CROATIA

REPUBLIC OF CROATIA
MINISTRY OF MARITIME AFFAIRS, TRANSPORT AND INFRASTRUCTURE
Maritime Safety Directorate

Zdravko Seidel, Head of Department

Rijeka 24/08/2016

BIG DATA is not the same as BIG USE

The challenge for us to find „the needle in the haystack"
- Are there any needles?   - How many are there?
- How does they look?   - Where are they?

BIG DATA is not the same as BIG USE

We found „the needle in the haystack"!

- Who is on board?   - What is on the board?

- In the event of accidents do we know what to do?

Situations relevant to detect, apply appropriate business process
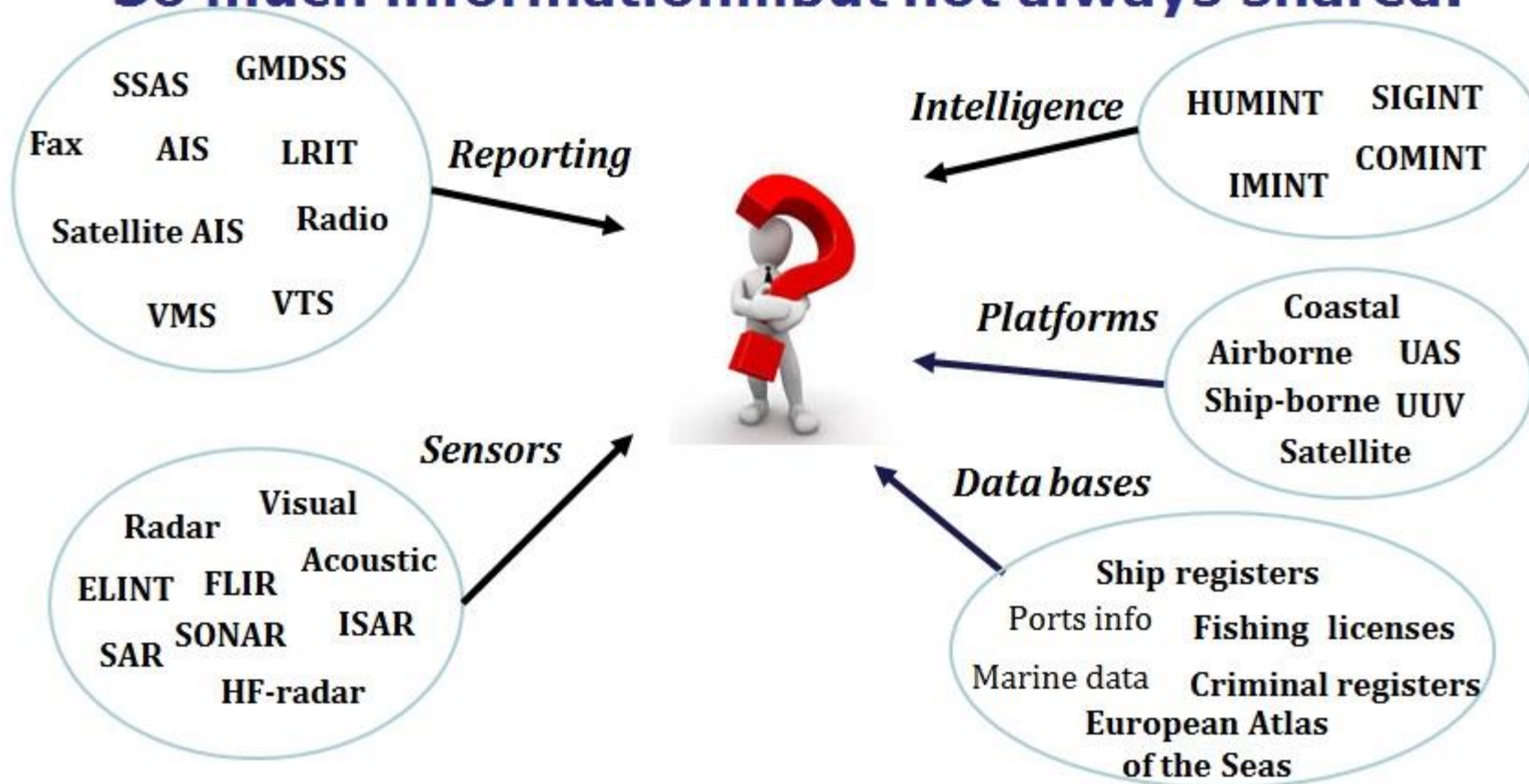
- SAR?

       - Place of refuge?

- Wreck removal?

       - Intervention?

- Salvage?

       - VTS TOS?

- Towing?

       - Pilot?

- ISPS?   - ..... ???

Maritime Surveillance
So much information...but not always shared!

Reporting
- SSAS
- GMDSS
- Fax
- AIS
- LRIT
- Satellite AIS
- Radio
- VMS
- VTS

Intelligence
- HUMINT
- SIGINT
- COMINT
- IMINT

Platforms
- Coastal
- Airborne
- UAS
- Ship-borne
- UUV
- Satellite

Sensors
- Visual
- Radar
- Acoustic
- ELINT
- FLIR
- ISAR
- SAR
- SONAR
- HF-radar

Data bases
- Ship registers
- Ports info
- Fishing licenses
- Marine data
- Criminal registers
- European Atlas of the Seas

7 user communities with duties related to maritime surveillance around 400 authorities in the EU

FISHERIES CONTROL (EFCA)

DEFENCE (EDA)

CUSTOMS

BORDER CONTROL (Frontex)

MARINE ENVIRONMENT (EEA)

GENERAL LAW ENFORCEMENT (Europol, MAOC-N, CeCLAD-M)

MARITIME SAFETY AND SECURITY (EMSA)

Why CISE?

- Large amounts of information collected

REPORTING		SENSORS		PLATFORMS	INTELLIGENCE	DATA BASES
VMS	LRIT	Visual	SONAR	Coastal	HUMINT	Ship Registers
VTS	Fax	Radar	SAR	Airborne	SIGINT	Ports Info
SSAS	Satellite	ELINT	ISAR	UAS	IMINT	Fishing Licenses
GMDSS	AIS	FLIR	HF-	Ship-Borne	COMINT	Marine Data
AIS	Radio	Acoustic	Radar	IIV		Criminal Registers
				Satellite		European Atlas

- **Maritime data is subject to multiuse: the same piece of data can be meaningful for different authorities in different operational situations.**

- **Only 30% of the useful data is shared across sectors**

„The Maritime Domain is facing today opposing drivers, on one side the need is increasing, on the other side the budgets are drying"

TOWARDS SOLUTIONS IN HR:

- ➢ **AdriaMAS concept**

- ➢ **NSW (national CISE)**

ALL RELEVANT DATA FROM INTERNATIONAL CONVENTIONS, EU AND NATIONAL REGULATIONS + TYPE AND PLACE OF INCIDENT/ACCIDENT, HAZMAT, VALID INSURANCE/FINANCIAL GUARANTEE, …

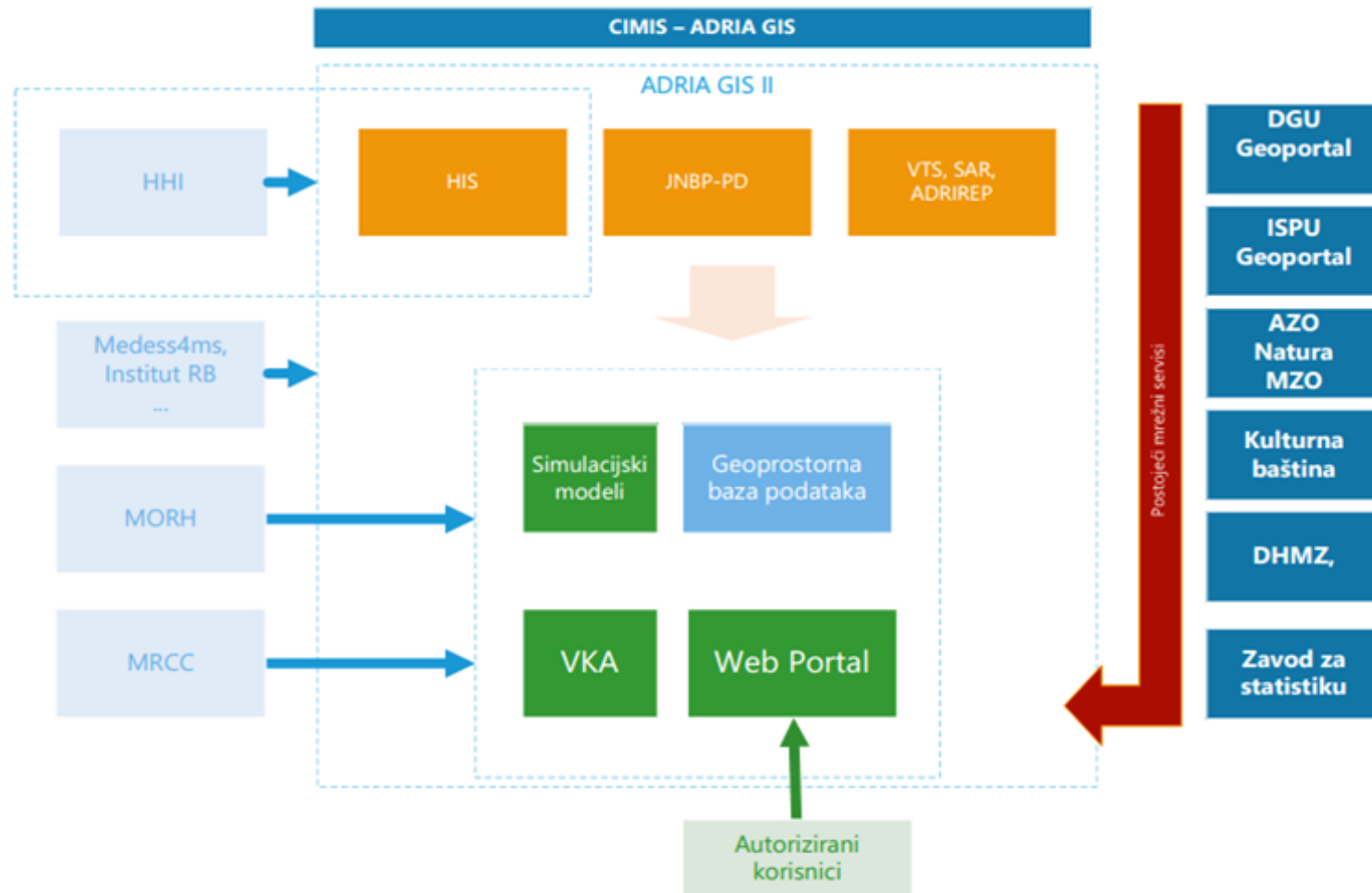$$\Pi(a,b) = \frac{\sum_{j=1}^{n} w_j P_j(a,b)}{\sum_{j=1}^{n} w_j} \qquad \Phi^+(a) = \frac{1}{n-1} \sum_{b \in A} \Pi(a,b) \qquad \Phi^-(a) = \frac{1}{n-1} \sum_{b \in A} \Pi(b,a)$$

SELECTION AND MANAGEMENT OF THE INTEGRATED BUSINESS PROCESS

AdriaMAS based on GIS web technology

METEO MODEL ALADIN/HR   OCEANOGRAPHIC MODEL ROMS
DRIFT MODEL LEEWAY   OCEANOGRAPHIC MODEL SCHISM
WIND WAVE MODEL WWM III

INTEGRATED METEO-OCEANOGRAPHIC FORECASTING AND MODELING SYSTEM

JOZO

MOVEMENT PREDICTION OF MOB, OIL SPILL, VESSEL ADRIFT, SAR

ACTIVITY	INSTITUTION
Uspostava oceanografskog sustava na skali Jadrana i priobalnih područja hrvatskog dijela Jadrana	**IOR, IRB, DHMZ**
Uspostava modela za prognozu površinskih valova	**IRB, DHMZ**
Uspostava modela olujnog uspora	**PMF-GO, DHMZ**
Definiranje i provođenje procedura za verifikaciju oceanografske komponente prognostičkog sustava	**PMF-GO, IOR, IRB, HHI, DHMZ**
Uvođenje asimilacije podataka u oceanografski model	**DHMZ, IRB, IOR**
Uspostava modela drifta i dinamike naftnog zagađenja	**IOR, HHI**
Izdavanje oceanografskih prognoza	**IOR, IRB, PMF-GO, DHMZ, HHI**
Kreiranje korisničkog sučelja	**MPPI**
Osposobljavanje djelatnika nacionalne službe za korištenje operativnog modelskog sustava	**DHMZ, HHI, MPPI, PMF-GO, IOR, IRB**

FUTURE DEVELOPMENT OF AdriaMAS

AdriaMAS S2S interface with EMSA applications (IMDatE) to provide a more effective sharing of information and increase the efficiency, quality, responsiveness and coordination of maritime operations

National Maritime Single Window Project

➢ **Of particular interest at EU level is the Reporting Formalities Directive, which sets up National Single Windows**

➢ **NSW will provide central national information exchange platform for reporting and sharing of maritime related informations between all competent authorities, therefore providing relevant cross-sectorial and cross-national information in the maritime domain for all authorities, in particular on the civilian side**

National Maritime Single Window Project

- ➢ **Government Regulation (OG 119/15)**

- ➢ **Directive 2010/65/EU**

- ➢ **NSW, CISE and MDA concept to be realised through this Government Regulation**

- ➢ **Data: dynamic, semi-dynamic, static, administrative**

- ➢ **Current cooperation agreements MMATI with Ministry of Interior, Ministry of Defence, Ministry of Agriculture, Ministry of Health, Ministry of Finance - Customs**

- ➢ **Follows: cooperation between other competent authorities + establish an information sharing platform between authorities**

CROSS-SECTORIAL NORMATIVE-TECHNICAL COMITEE

MMATI MSD

Ministry of Interior	Ministry of Defence
Ministry of Finance - Customs	Ministry of Agriculture - Fisheries
Ministry of Agriculture - Phytosanitary Inspection	Ministry of Agriculture - Veterinary
Ministry of Foreign and European Affairs	Ministry of Science, Education and Sports
Ministry of Health – Sanitary Inspection	Ministry of Culture
Ministry of Administration	Ministry of Economy
Ministry of Environmental Protection and Nature	Bureau of Statistics

CROSS-SECTORIAL NORMATIVE-TECHNICAL COMITEE

1. **Prepare drafts**

COOPERATION AGREEMENTS

2. **Maintain**

CATALOGUE OF CERTIFICATES, DOCUMENTS AND DATAS

TERMS AND METHODS OF EXCHANGING DATA

3. **Issue**

BASIC FUNCTIONAL SPECIFICATION

Thank You for the Attention!