



ISO Coordinate Reference Systems Registry

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Introduction and Goals

- (1) Introduction and Goals**
- (2) ISO Geodetic Register Network**
- (3) Register Management and Usage Structure**
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(1) Introduction and Goals for the ISO CRS Registry Network

- **Registries are information systems with contents which are validated and accepted by common roles (ISO)**
- **Initiated in 2005 by ISO/TC 211**
- **The ISO Geodetic Register Network**
 - **will be based on ISO standards**
 - **ISO 19111 Spatial referencing by coordinates**
 - **ISO 19127 Geodetic codes and parameter**
 - **ISO 19135 Procedures for item registration and**
 - **fulfilled the OGC-Spezifikation for Web Processing Services (WPS)**
- **The ISO Control Body (CB) for the Geodetic Registry Network provides the geodetic knowledge from IAG**
- **Examples: EPSG and CRS-EU information systems**



(2) ISO Geodetic Register Network

- **ISO 19135:2005 describes the ISO Geodetic Register Network. It has three parts:**
 - **The ISO register of geodetic codes and parameters (ISO TS 19127). This contains coordinate reference system data and coordinate transformation data that conform to ISO 19111 and are international in geographic extent of application, widely used, and well defined;**
 - **External registers of geodetic codes and parameters that have been approved by the Control Body of the ISO Geodetic Register Network; and**
 - **The ISO register of geodetic registers. This register identifies the ISO and ISO-approved registers of geodetic codes and parameters described above**

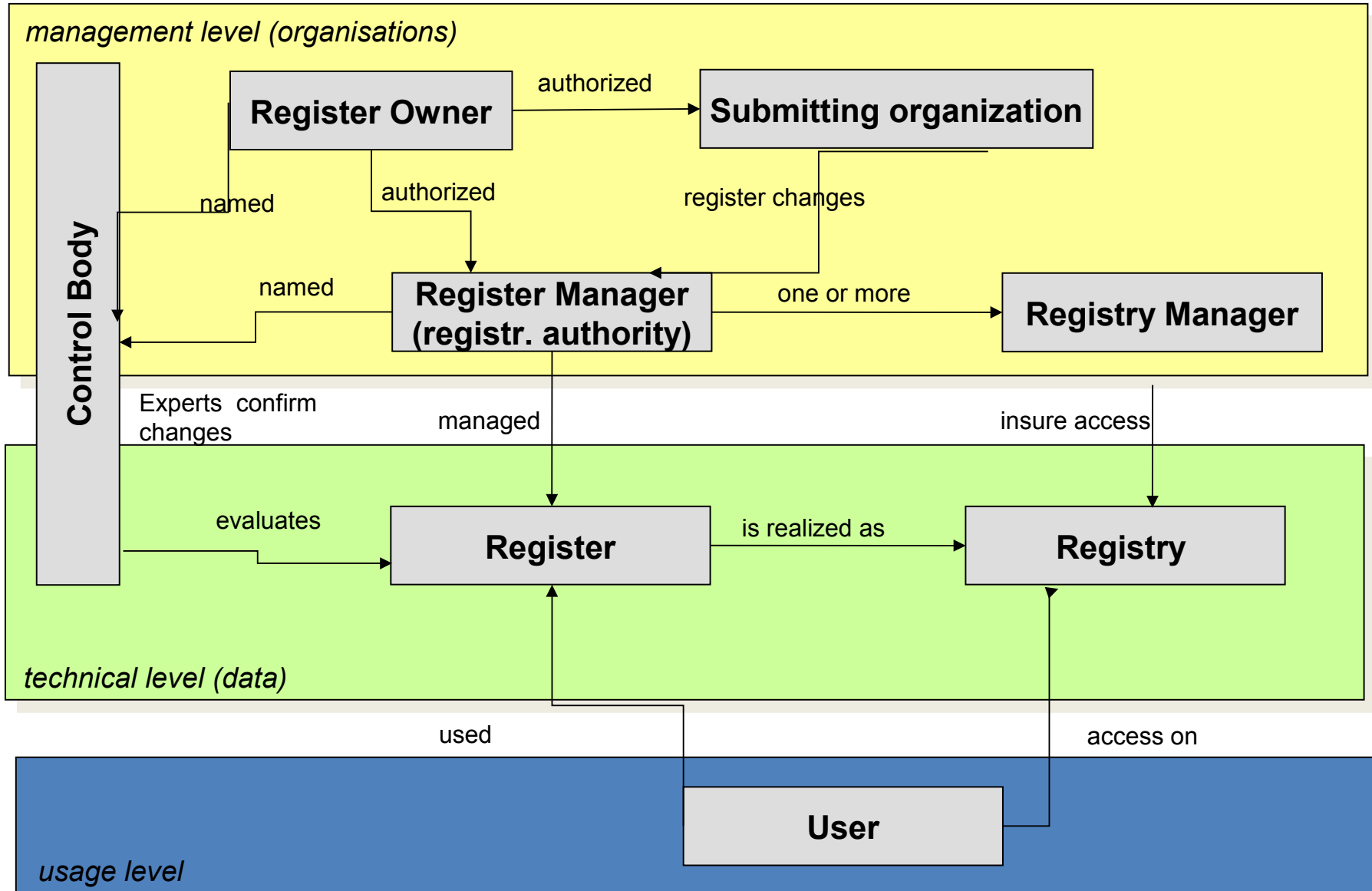


ISO Geodetic Register Network (2)

- The ISO register of geodetic registers and the ISO register of geodetic codes and parameters are owned by TC 211 and will be managed by the TC 211 Secretariat.
- External registers of geodetic codes and parameters that have been approved by the Control Body of the ISO Geodetic Registry Network (led by the IAG) are not owned or managed by TC 211.
- The ISO register of geodetic registers shall consist of hyperlinks to the ISO register of geodetic codes and parameters and each ISO-approved external register of geodetic codes and parameters.
- It shall be available on the web.



(3) Register Management Structure





(4) Register Resources types (ISO 19111)

Description

- **Coordinate Reference System**
 - geodetic, vertical, projected, compound
- **Datum**
 - geodetic, vertical
- **Ellipsoid, Prime Meridian**
- **Coordinate System**
 - coordinate system type
 - Axis
 - Projection

Relationship

- **Transformation**
 - transformation method
 - transformation parameters
- **Units of measure**
- ...
- ...



INSPIRE CRS Implementing Rules

Coordinate Reference Systems Concept

GEO-SPATIAL DATA SETS

COORDINATES	3D/2D CRS	1D CRS	ATTRIBUTES / PARAMETERS
<div><div>CARTOGRAPHIC PROJECTION</div><div><div>x, y</div><div>H</div></div><div>2D + 1D</div></div>	National	National	...
<div><div>ELLIPSOID</div><div><div>φ, λ</div><div>H</div></div><div>3D</div></div>	ETRS89	EVRS	time
<div><div>ELLIPSOID</div><div><div>φ, λ, h</div><div></div></div><div>3D</div></div>	WGS84	None	depth
<div><div>ELLIPSOID</div><div><div>X, Y, Z</div><div></div></div><div>3D</div></div>	ITRS	Global	pressure



Informationssystem for European Coordinate Reference Systems

CRS_{EU}

Coordinate Reference Systems
in Europe



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Information and Service System for European Coordinate Reference Systems

This Information and Service System for European Coordinate Reference Systems was established to support the users of spatial information in Europe.

It is a common project of:

Service

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Bundesamt für
Kartographie und Geodäsie

Bundesamt für Kartographie und Geodäsie (Federal Agency for Cartography and Geodesy), Germany

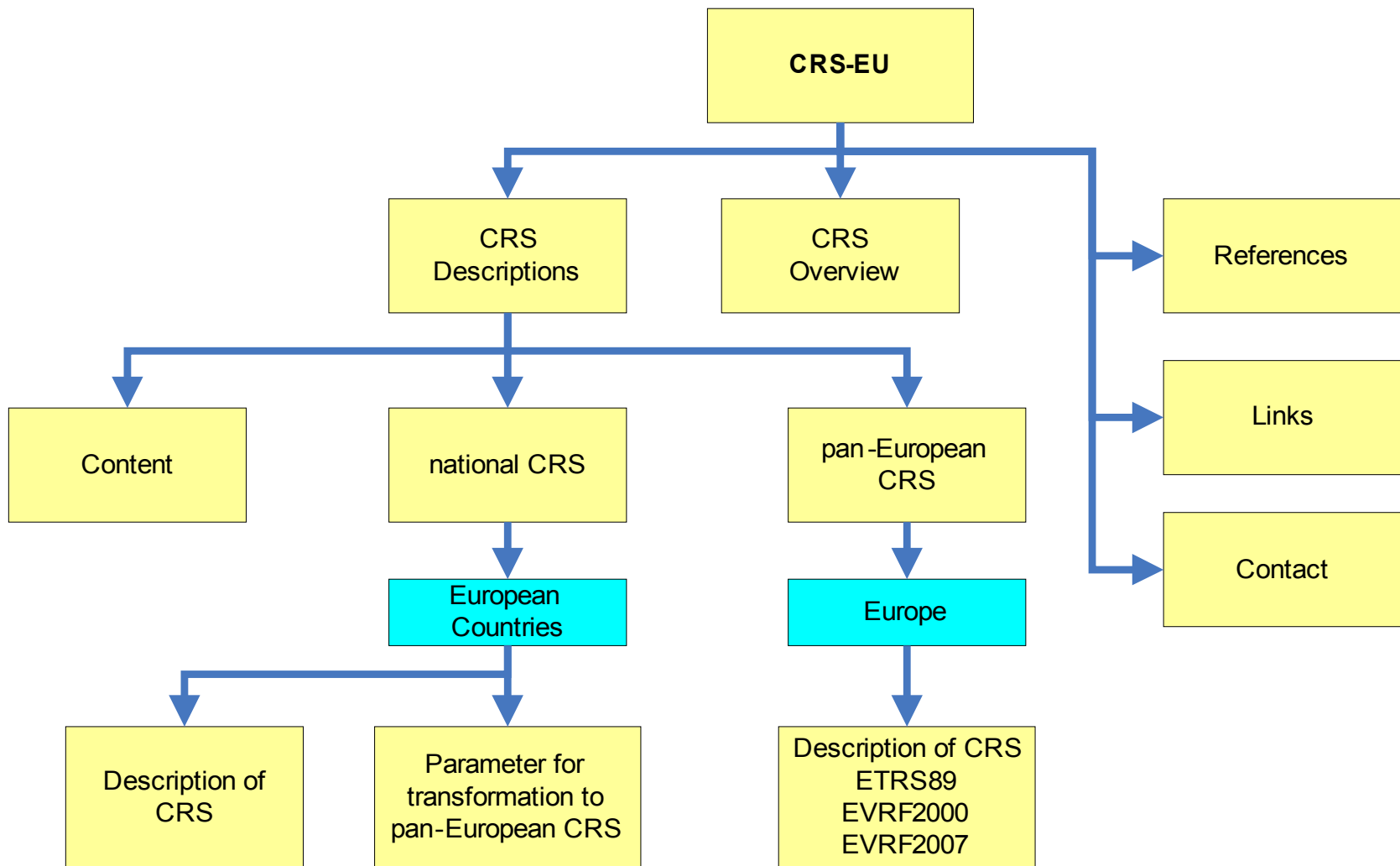


EuroGeographics as the central-hub for Europe's Geographic Information (GI) developments
- a unique and diverse network working of all concerned with European GI, National Mapping and Cadastral Agencies (NMCAs), the European Commission and others



EUREF (European Reference Frame) as Sub-Commission of IAG's (International Association of Geodesy) Commission X on Global and Regional Geodetic Networks with the main task to establish and maintenance of the European Reference Frames

CRS-EU Structure





(5) Status of Work

The ISO Geodetic Registry Network

- **It was decided to implement a self-contained ISO register of geodetic parameters.**
- **ISO-approved external registers may complement the ISO register.**
- **An online register of geodetic registries should be maintained.**
- **A set of test data is in preparation to evaluate the ISO registry.**



Status of Work (2)

The ISO register

- The ISO/TC 211 Secretariat (Olaf Østensen, Norway) agreed to run the ISO register.
- CPA Systems developed RegManTool, a complete registry database and management system for DGIWG.
- In December 2011, CPA Systems received authorization to make RegManTool available to ISO/TC 211.
- The initial data for the ISO register will come from existing registers (e.g. EPSG Geodetic Parameter Registry, CRS-EU). All CRS-EU entries are also available at the EPSG Geodetic Parameter Registry.



Status of Work (3)

The ISO Control Body (CB) for the Geodetic Registry Network

- **The IAG was invited to chair the CB. Mike Craymer (Canada) is presently fulfilling this role on behalf of the GGOS Bureau of Standards & Conventions.**
- **The CB is considering issuing a new call for members to be nominated by ISO/TC 211 member nations. The CB will also actively seek geodetic experts from Class A Liaison organizations (e.g., FIG, IHO).**
- **The most recent CB meeting took place at the TC 211 meeting in Toulouse, June 4, 2012.**