
# ISO 9001 for spatial data: ICGC experience

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Valletta (Malta), 6th - 7th February 2018

ICGC
Institut Cartogràfic i Geològic de Catalunya

Generalitat de Catalunya

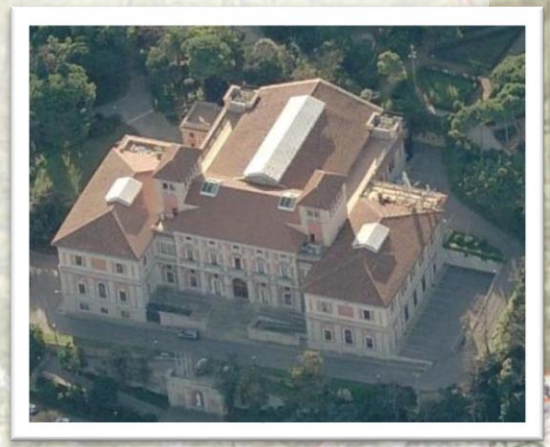
# This presentation

- **Certification background**
- **2006 - 2009 Compliance with ISO 9001: 2000**
  - **QMS Consolidation**
- **2009 - 2018 Compliance with ISO 9001: 2008**
  - **Scope widening & QMS matureness**
  - **Transition to ISO 9001:2015**
- **2018 - … Compliance with ISO 9001: 2015**
- **Conclusions**

# Background
## The Organization

## Institut Cartogràfic i Geològic de Catalunya (ICGC)

- ***Catalan Geoinformation Agency*** *and reference public service for the application of geo-scientific knowledge (Government of Catalonia)*
- ***Aim****: Deliver to customers and users valued geographic and geological information and services.*
- Creation: 2014
- Merger of 2 Orgs.: ICC (1982) + IGC (2005)
- Location: Barcelona



**Institutional and commercial activities**

**International background**

**Multidisciplinary knowledge fields**

- Geodesy, Geomatics, SDI, Geology, Geophysics

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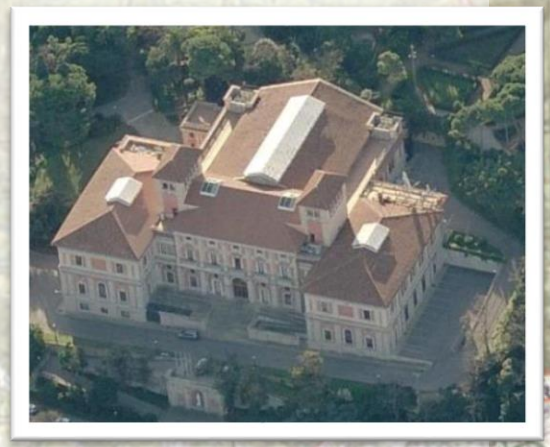

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# Background
## Target: certification

**Target:** to be ISO 9001 certified

### CEO

- **Advantages**
  - Industrial procedures
  - *Reliability*
  - External audits
  - *Recognition*

### Staff

- **Risks**
  - Bureaucracy
  - *Inefficiency*
  - Control
  - *Distrust*

# Background
## Criteria

**Target:** to be ISO 9001 certified

## Quality Management System

- **Feasible scope**
  - Institutional activity
  - Spatial data product
  - *Topographic database 1:5000 (BT5M)*
- **Vision**
  - Evidence good practices
  - *Personnel complicity*

# Background
## Figures

- Resources
  - 1 year people > Adapt and prepare the Quality Management System documentation according to ISO 9001:2000
  - External adviser > Internal auditor
  - Certifying company > External audit

- Results
  - Characterization of BT5M production as a set of operative processes
  - To be more proactive looking for customer's satisfaction
  - Improvement of the corporative image

# 2006 - 2009
## ISO 9001: 2000



Applus Certification Technological Center

CERTIFICATE

Number EC-2339/06

LGAI Technological Center certifies that the Quality Management System of the organization:

INSTITUT CARTOGRÀFIC DE CATALUNYA

Parc de Montjuic
E-08038 BARCELONA

For the following activities:

Production of the Topographic Database 1: 5.000 of Catalonia, of the Map 1: 5.000 of Catalonia and of the digital terrain model,

is in accordance with the requirements of the standard ISO 9001:2000

This certificate is valid until March 13, 2009
Cerdanyola del Vallès , March 13, 2006

ENAC

General Director

Manager of the Certification C

Ramon Capellades i Font

Salvador Boix Iglesias

This certificate shall be valid provided that all the conditions of the contract of which it is a part are fulfilled

Applus QUALITY CERTIFIED COMPANY ISO 9001

Certification Technological Center

ACCREDITED BY IATF

# 2006 - 2009
## QMS consolidation

- Continuous improvement
  - Preventive and corrective actions
  - Wide use of indicators
  - Customer orientation of IT Department
- Customer's satisfaction
  - Customer's opinion
  - DB of complaints, suggestions or questions

# 2006 - 2009
## Balance

**ISO 9001 certified**

### Benefits

- Internally
  - Staff commitment
  - *Certifications ISO 14001, OHSAS 18001*
- Externally
  - Competitiveness
  - *Consultancy projects*

### Challenges

- Internally
  - Up-to date documents
  - *Inconsistencies*
  - Indicators meaning
  - *Deviations*

# 2009 - 2018
## Main changes of ISO 9001:2008

### Advantages

- Control only relevant documents
- Information systems as infrastructure
- Measures of customer's perception

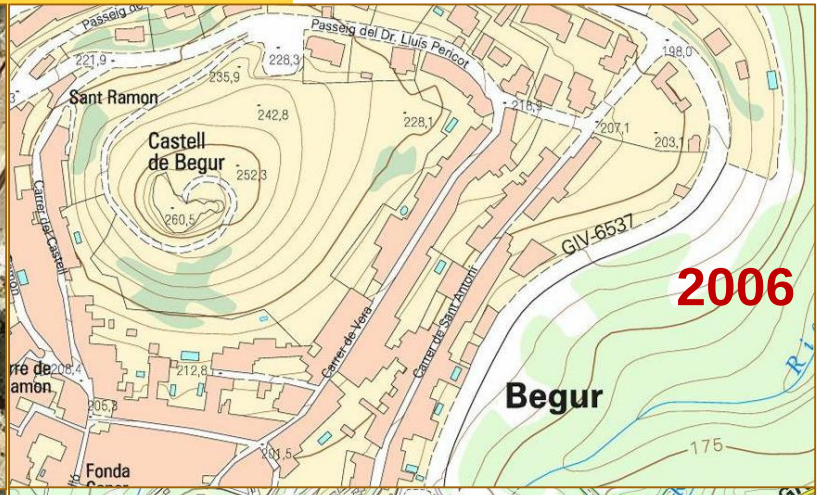
### Challenges

- Competence of people assurance
- Management of physical and environmental conditions

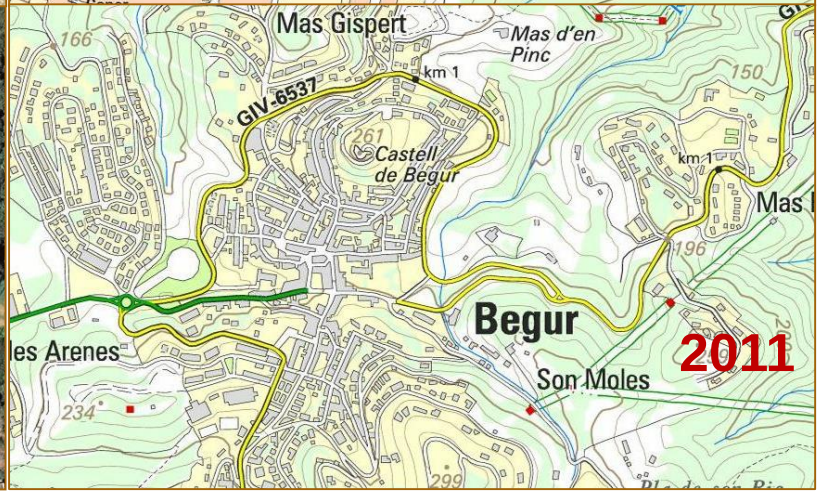
**Target**: scope widening

# 2009 - 2018
## Scope widening

## Topographic databases






## Orthophotos

# 2009 - 2018
# QMS matureness

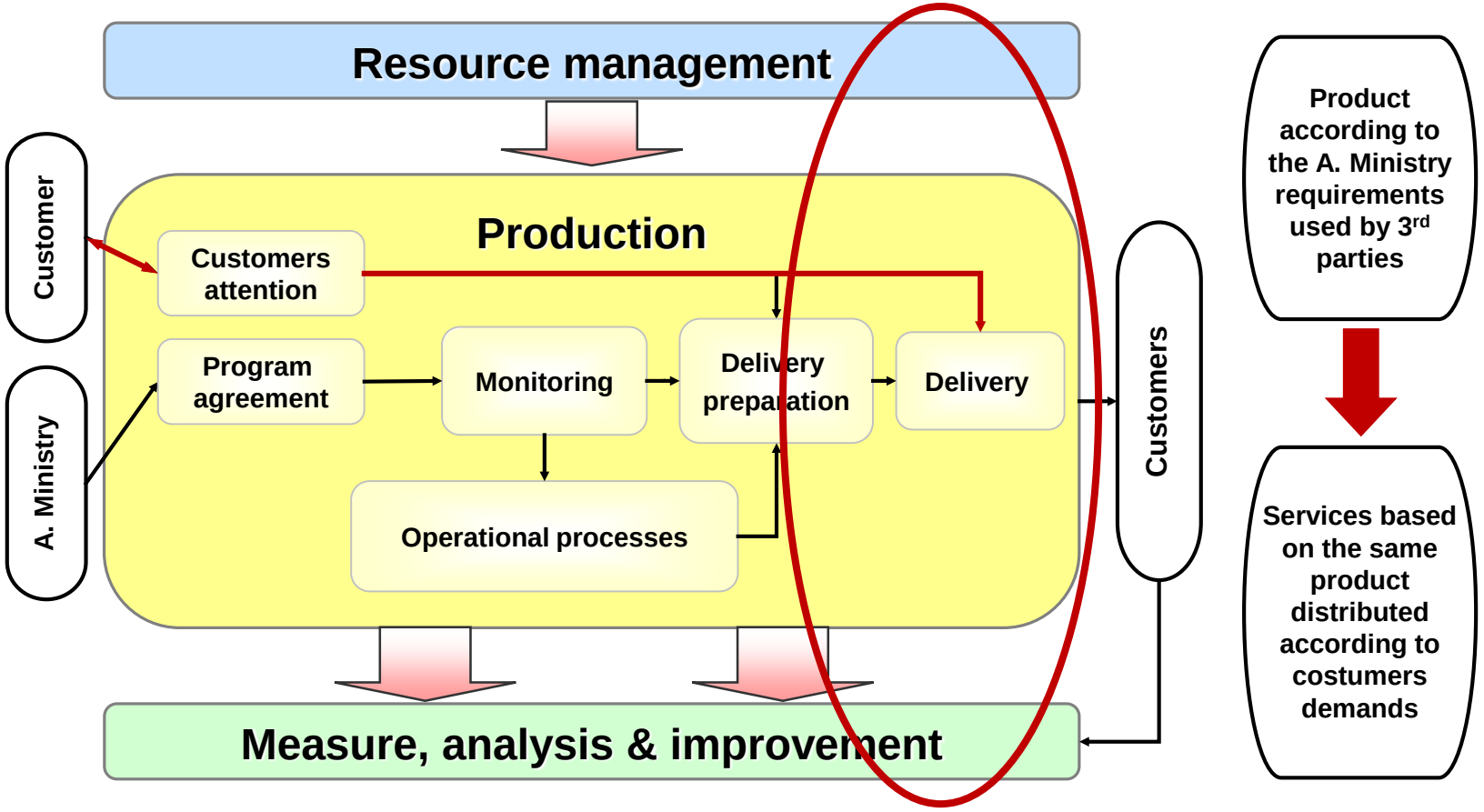
- Continuous improvement
  - Traceability of improvement actions
    - Link between DB of non-conformities, DB of projects and improvement actions
  - ITIL orientation of IT Department
    - Services catalogue
    - Increasing communication between IT department and staff (users)
  - Extended use of indicators
    - Indicators to measure quality of processes (efficacy and efficiency)
    - Checking them continuously

# 2009 - 2018
# QMS matureness

- Customer's satisfaction
  - Traceability of complaints, suggestions or questions
    - Link between DB of complaints, DB of projects and improvement actions
    - Classification by processes, severity, product, responsible area
  - Customer's opinion
    - Surveying, interviews, suggestions etc.
  - Indicators
    - Average and maximum response time to the complaints
    - Satisfaction as a function of number of complaints and production projects, weighted by the cost

# 2009 - 2018
## SQM vision changes

- Organization: Data producer >>> Service provider
- Customer: Autonomous ministry >>> Users, Enterprises, Administration



# 2009 - 2018
## Main changes of ISO 9001:2015

### Advantages

- Process's documents, if they are needed
- Applicable to products and services
- Process model expansion
- Enhancing performance

### Challenges

- Knowledge of the organization context
- Understanding stakeholders' needs and expectations
- Risk based thinking
- Management reviews

**Target**: certification maintenance

# 2009 - 2018
# Transition to ISO 9001:2015

- QMS documented information
  - Use of a content collaboration software, to assure control, maintenance and accessibility: Confluence
    - Creation of a specific space for QMS documented information
    - Linking from/to information of other Confluence spaces, internet, servers…
  - Increasing the volume of information
    - QMS monitoring meetings (private areas)
    - Objectives, improvement actions, indicators, management reviews…

# 2009 - 2018
# Transition to ISO 9001:2015

- Organization's context
  - Relevant issues and its influence
    - Determine internal and external factors that have an impact on the organization (legal, political, social, technical…) and prioritize them: SWOT analysis

      Threat - opportunity > Generalized use / consume of GI

      Strength > Capacity of adapting to IT changes, free data and open apps

      Weakness > Not all historical data and knowledge available
  - Stakeholders
    - Identify and value interested parties and their requirements

      Valued aspects: impact on product/services, customers' satisfaction, achievement of objectives and compliance with legal requirements

      Requirements: quality and quantity of service, technical support, communication and transparency

# 2009 - 2018
# Transition to ISO 9001:2015

- Risk based thinking > Infrastructures / Delivery
  - Infrastructures
    - Business Continuity Plan: Business Impact Analysis / Disaster Recovery Plan

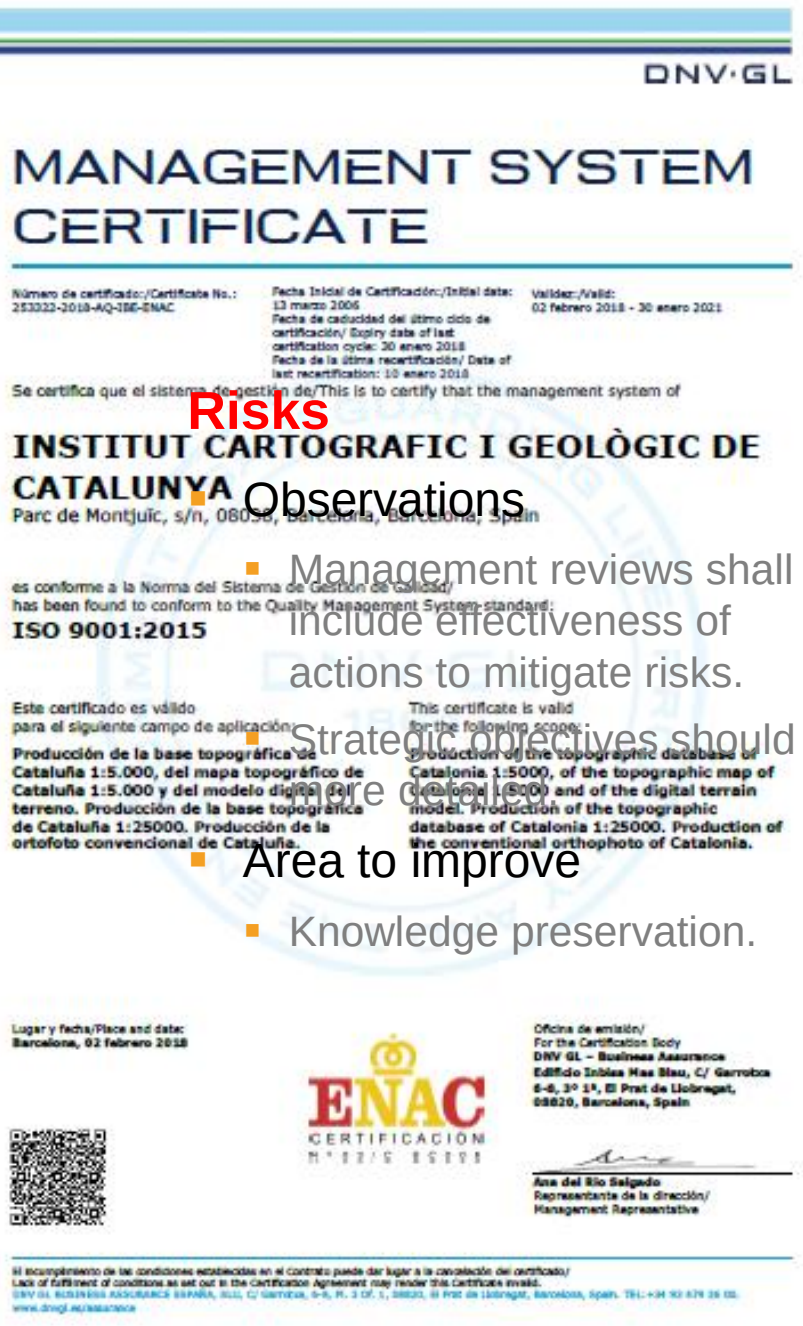
      List of main activities, impact assessment of its stopping, define recovery time and point objective, resources or actions needed to achieve RTO and RPO
  - Delivery
    - Organizational chart having its own entity, where end the production chains

      Analysis of the outputs of the productions chains and definition of derived products and services to be provided

# 2018 - …
# ISO 9001: 2015

## Benefits

- External monitoring of areas of interest
  - BCP ✓
- Opportunities of improvement
  - Precise identification of responsible people for process and minimum resources.
- Strengths
  - Staff's competence and commitment.
  - Update of technology and equipment.
  - Attention service of IT dep.



DNV·GL

MANAGEMENT SYSTEM CERTIFICATE

Número de certificado:/Certificate No.: 253022-2018-AQ-ISE-ENAC

Fecha Inicial de Certificación:/Initial date: 13 marzo 2006
Fecha de caducidad del último ciclo de certificación/ Expiry date of last certification cycle: 30 enero 2018
Fecha de la última recertificación/ Date of last recertification: 10 enero 2018

Validez:/Valid: 02 febrero 2018 - 30 enero 2021

Se certifica que el sistema de gestión de/This is to certify that the management system of

**INSTITUT CARTOGRAFIC I GEOLÒGIC DE CATALUNYA**

Parc de Montjuïc, s/n, 08038, Barcelona, Barcelona, Spain

es conforme a la Norma del Sistema de Gestión de Calidad/ has been found to conform to the Quality Management System standard:

**ISO 9001:2015**

Este certificado es válido para el siguiente campo de aplicación:

**Producción de la base topográfica de Cataluña 1:5.000, del mapa topográfico de Cataluña 1:5.000 y del modelo digital del terreno. Producción de la base topográfica de Cataluña 1:25000. Producción de la ortofoto convencional de Cataluña.**

This certificate is valid for the following scope:

**Production of the topographic database of Catalonia 1:5000, of the topographic map of Catalonia 1:5000 and of the digital terrain model. Production of the topographic database of Catalonia 1:25000. Production of the conventional orthophoto of Catalonia.**

Lugar y fecha/Place and date: **Barcelona, 02 febrero 2018**

ENAC CERTIFICACIÓN

Oficina de emisión/ For the Certification Body: **DNV GL – Business Assurance, Edificio Inblas Mas Blau, C/ Garrotxa 6-8, 3º 1ª, El Prat de Llobregat, 08820, Barcelona, Spain**

**Ana del Río Salgado**
Representante de la dirección/ Management Representative

El incumplimiento de las condiciones establecidas en el contrato puede dar lugar a la cancelación del certificado/ Lack of fulfilment of conditions as set out in the Certification Agreement may render this Certificate invalid.

DNV GL BUSINESS ASSURANCE ESPAÑA, S.L.U. C/ Garrotxa, 6-8, Pl. 3 Of. 1, 08820, El Prat de Llobregat, Barcelona, Spain. TEL: +34 93 479 35 00.
www.dnvgl.es/assurance

## Risks

- Observations
  - Management reviews shall include effectiveness of actions to mitigate risks.
  - Strategic objectives should be more detailed.
- Area to improve
  - Knowledge preservation.

# Conclusions

- **A different way of looking**
  - Emphasize the positive and repair the negative.
  - Industrial approach gives importance to process interfaces pre and post-production activities.

- **A helpful instrument if**
  - Changes are done to improve not to get the certification.
  - Indicators are revised periodically according to the objectives.
  - Auditor’s observations or comments are considered.

# Thank you for your attention

## Questions?

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