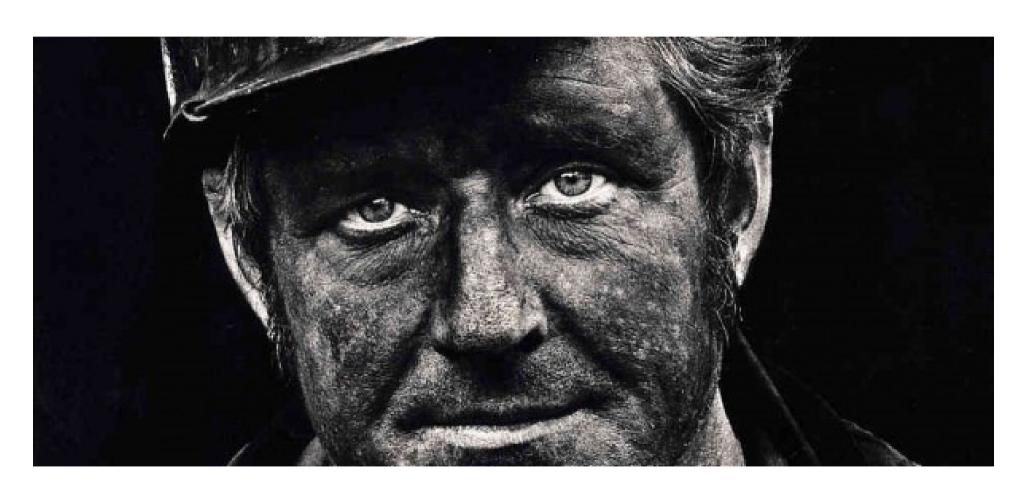
The strength of Authoritative Data: a Cadaster of Aeronautical Obstacles

The possible cooperation of NMCA with Geodetic Surveyors





Am I carrying coal to Newcastle?



Overview of the presentation



Introduction

Title, subject and motivation Authoritative Data Geodetic Surveyors as seen by CLGE

eTOD – ADQ – An opportunity

Definitions and context
The Belgian eTOD Implementation Project

Conclusions

Threats, Opportunities, Sense of Urgency Authoritative data and public appointment European Cooperation



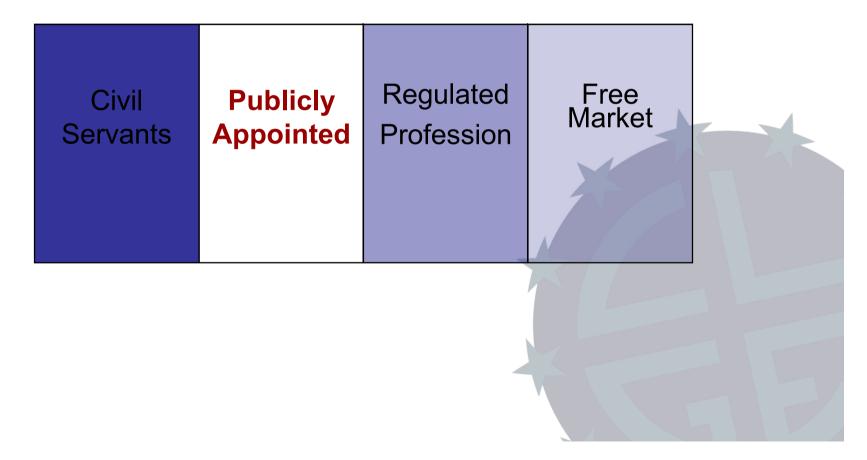
• 4 PILLARS

|--|

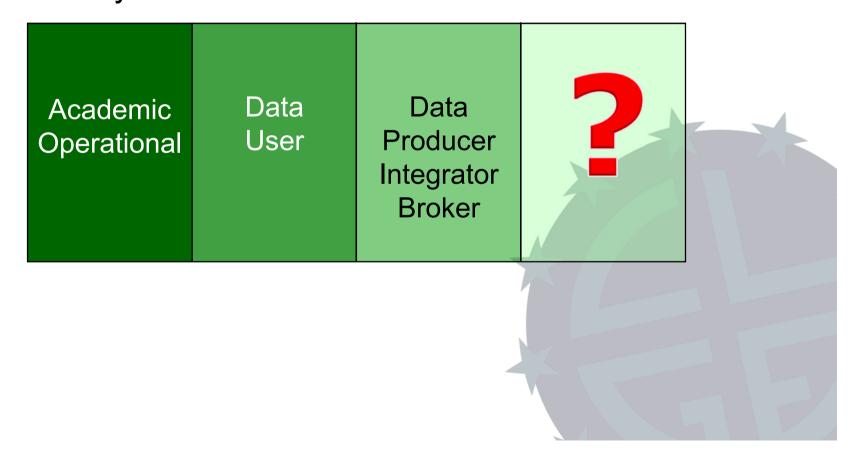
• 4 PILLARS

Article 45 Prev. 39	Article 51 Prev. 45	Mutual Recognition	Services
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• 4 PILLARS



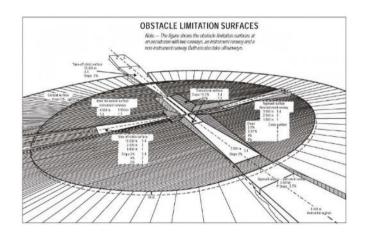
My career



Data User Period

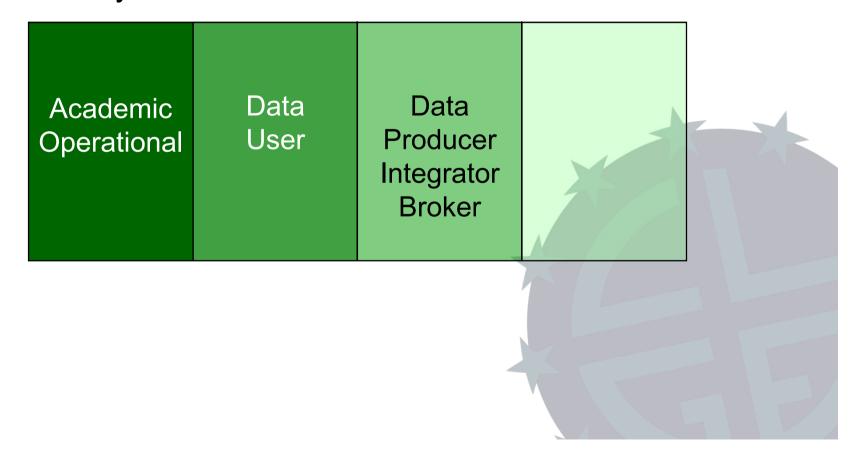


- Head Surveyor at the Infrastructures Division of the Belgian Military Staff
- In charge of:
 - A Geographical Information System for the Real Estate Management of Military Barracks and Domains
 - The AOTPI *Avoidance of Third Party Interference* related to the protection of right of ways and other public right restriction





My career



What are we doing at NGI

Geo-data and Geographic / Geodetic Reference Data



Reference Data at the intermediate scale levels

Orthophoto's



Digital terrainmodels (DTM)



Topogeografic reference data (vector-data)

Transport network

Powerlines

Built environment

Hydrography

Vegetation and ground use

Administrative units

Geographical names)



What are we doing at IGN

Maps



Thematic maps

All round thematic maps



Technical thematic maps

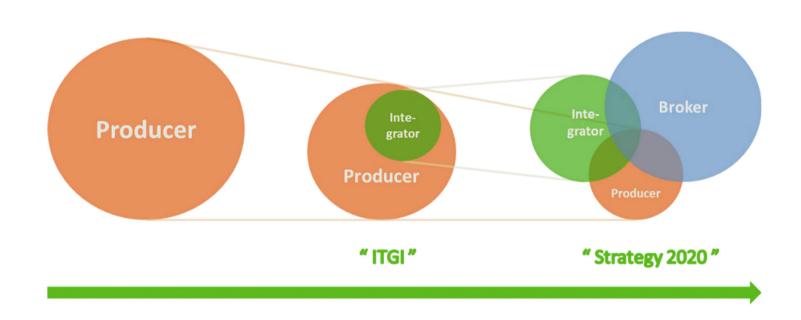


What are we doing at IGN

Guaranteeing Geo-data and Geographic / Geodetic Reference Data



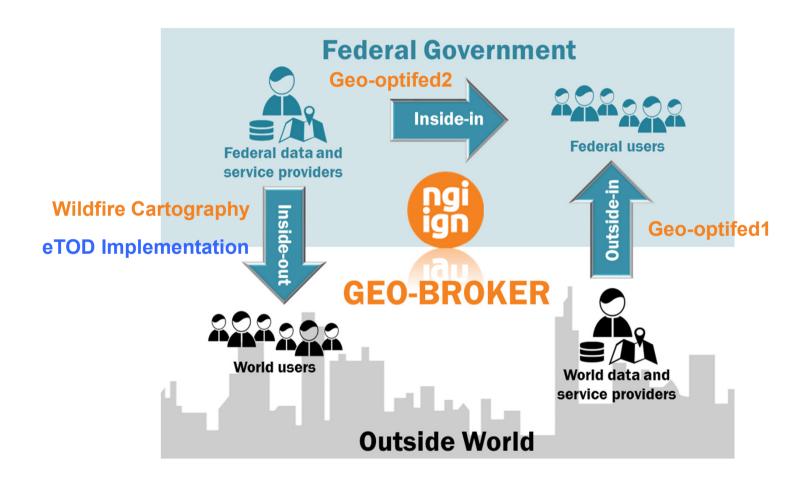
With the use of external information sources



What are we doing at NGI

The IGN as Geo-Broker











eTOD Implementation plan

Definitions



eTOD (electronic Terrain and Obstacle Data)

- ICAO
 - International Civil Aviation Organization
 - Annex 15 of the Chicago Convention or Convention on Civil Aviation
 - Chapter 10 introduces eTOD, the ICAO Standard

ADQ

- Aeronautical Data Quality Implementing Rule (Verordening van de Commissie (EU) N°73/2010 van 26 Januari 2010)
- Builds on the ICAO-standard
- "ADQ"-standard

eTOD Implementation plan

Our goal



eTOD (electronic Terrain and Obstacle Data)

- As Is
 - Low Air Map for the Belgian Territory
 - Low Air Data Base, from which this map is compiled
 - Obstacle surveys around airfields (military)
 - Photogrammetry and geodetic surveys
 - For the territory 1/3 per year
 - For the operational airfields every 5 years
 - Surveying for difficult obstacles and quality control

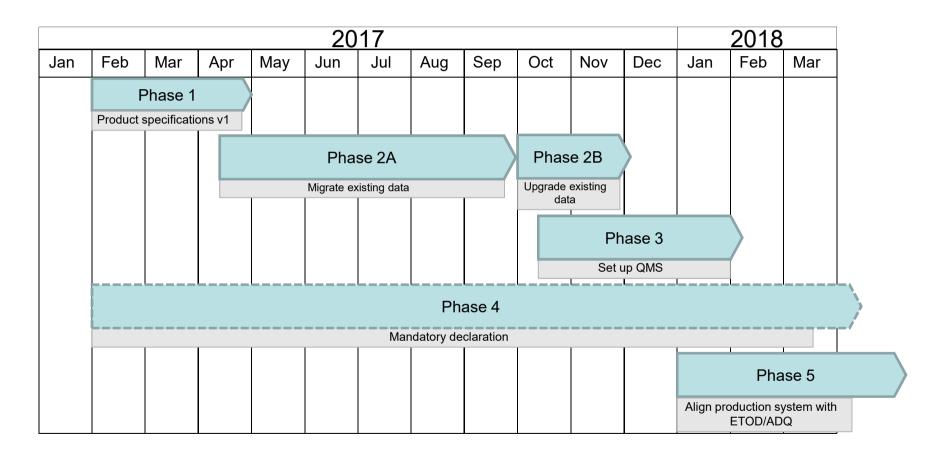
To Be

- Produce the same DB but following the eTOD (ICAO and ADQ) regulations
- Idem for our DTM (produced in a joint venture with the Regions)
- Develop a quality management system (QPMS)
- Introduce
 - a mandatory declaration for project developers
 - the use of publicly appointed surveyors to perform the as built measurements and description
- Maintain a photogrammetric and geodetic control but

Planning

26 September 2017





The geographical scope

Phased approach



Area 1

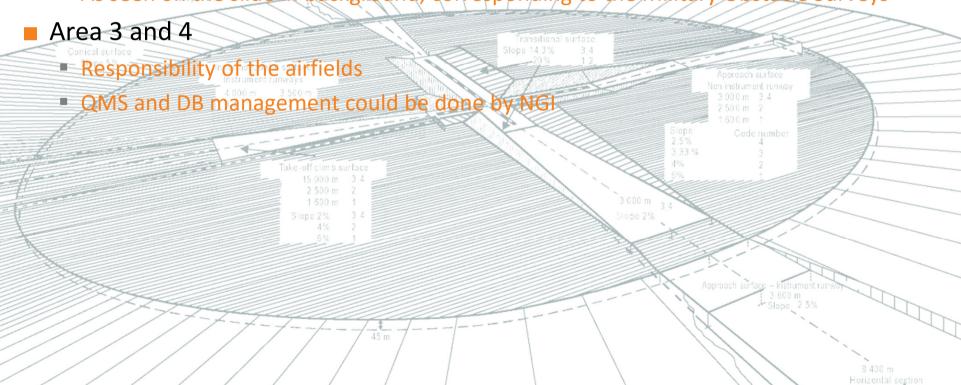
The national territory

OBSTACLE LIMITATION SURFACES

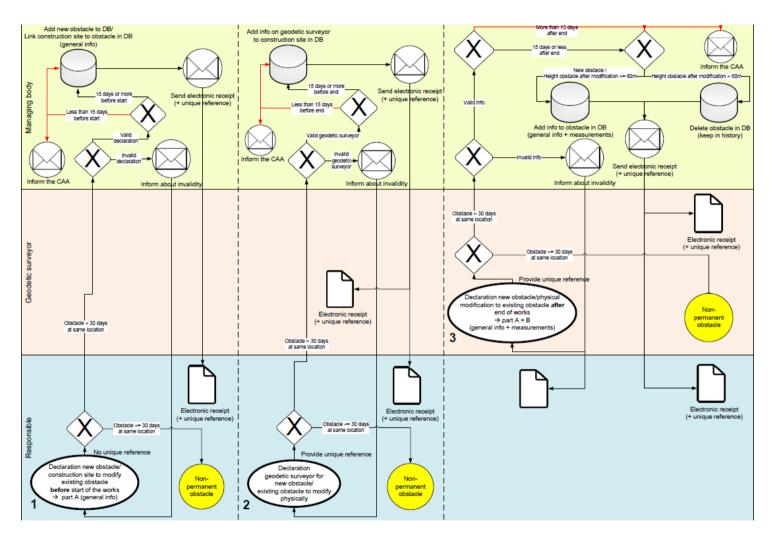
Note. — The figure shows the obstacle limitation surfaces at an aerodrome with two runways, an instrument runway and a non-instrument runway. Both are also take-off runways.

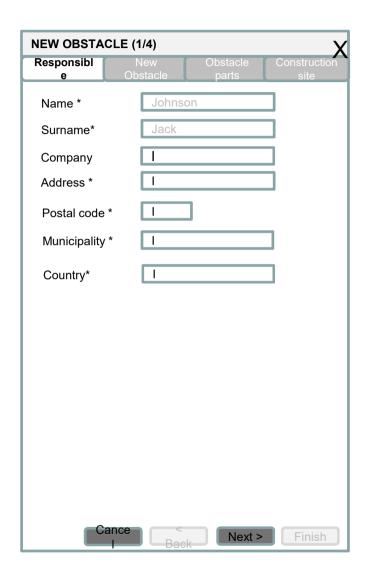
Area 2

As seen on the slide in background, corresponding to the Military Obstacle Surveys

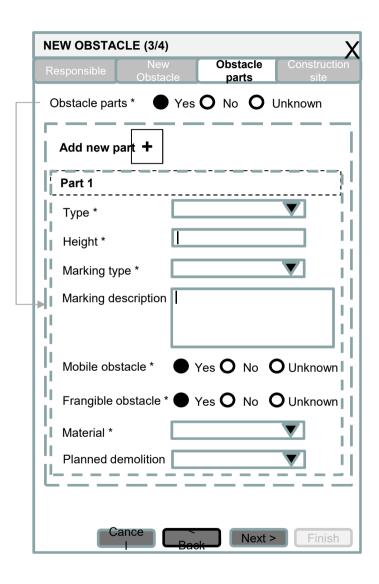


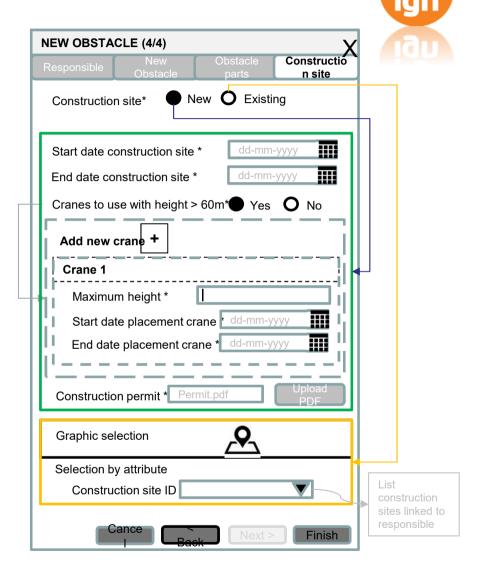


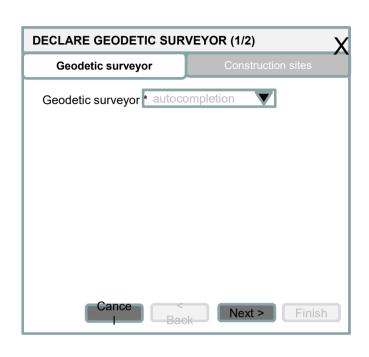


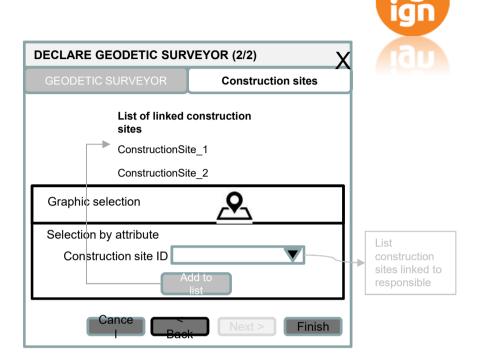


NEW OBSTA	CLE (2/4)	X
Responsible	New Obstacle Construction Obstacle parts site	n
Name *		Antenn a
Type *		Building
Height *	I	Windmil I
Coordinates	* X I Y I	Other
Lighting obs	tacle * Yes O No O Unknown	
Synchronise	ed lighting Yes O No O Unknown]
		Flag Markers
Marking type		Missing Unknow
Marking des	cription	n
Mobile obsta	acle * Yes O No O Unknown	Brick
Frangible ob	stacle Yes No Unknown	Concret e
Material *		→ Wood
Planned der	nolitior	Unknow ≰1 year 1-10
		vears



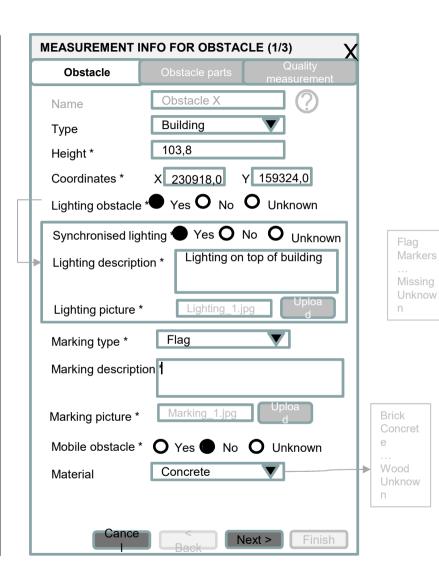






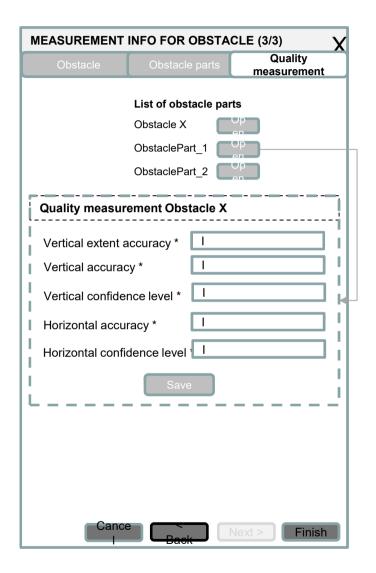


OR E GEODETIC SURVEYOR **MEASUREMENT** STEP 3: GEOPROVIDES IN



Obstacle O	bstacle parts Qua
List	of obstacle parts
Obs	taclePart_1
Obs	taclePart_2
DbstaclePart_1	
Туре	Antenna
Height *	2,5
Marking type *	HBands
Marking colour 1	lacksquare
Marking colour 2	lacksquare
Marking description	Horizontal bands with white and red colouring
Marking picture *	Marking_1.jpg Uplo
Mobile obstacle *	Yes O No O Uni
Material *	Metal
	Save

ES MEASUREMENT INFO GEODETIC SURVEYOR STEP 3: PROVIDI







Conclusions



My Wish List



My Wish List





Conclusions

- European Integration is required
 - We need a Agency in charge of GI
 - Work of EuroGeographics is heroic
 - Size of Belgium is not relevant
 - History of mapping agencies (ESDP)





Conclusions

- European Integration is required
 - We need a Agency in charge of GI
 - Work of EuroGeographics is heroic
 - Size of Belgium is not relevant
 - History of mapping agencies
- Blind deregulation is trendy, smart deregulation is better, public appointment best
 - Europe should stop its deregulation spree
 - Some professions deserve regulation, and if possible a homogeneous regulation
 - For some activities, State guarantee implies Civil Servant and Publicly Appointed Surveyors

Reviewing Process











Knowledge Exchange Network "Cadaptre and Lan Ragistry Working Group "Impact of EU Legislation of Cadaptral Surveying

European requirements for cadastral surveyor activities



Impact of EU Legislation on Cadastral Surveying



7 April 2010

Conclusions

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 - Some professions deserve regulation, and if possible a homogeneous regulation
 - For some activities, State guarantee implies Civil Servant and Publicly Appointed Surveyors
- The eTOD implementation should be shared and coordinated in Europe
 - IGN has an experience in this field and is eager
 - To share with others to learn and teach
 - To coordinate to have a common and coherent approach

The strength of Authoritative Data: a Cadaster of Aeronautical Obstacles

The possible cooperation of NMCA with Geodetic Surveyors

Jyp@ign.be

