Towards the assessment of the demand of Spatial Data Infrastructures and e-services: lessons from the e-Cadastre

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General aim of the study

Estimate the demand for e-services to support work on INSPIRE

Case study of e-Cadastre as a key service and eGovernment best practice

e-Cadastres in Europe

Impact on cadastral activities

Generated demand

Role of cadastral activities in the I Sector

Sector	Value added (Euro billion)	Turnover (Euro billion)	Employment (1000)	No. of enterprises (1000)
Real estate activities	290	600	3070	1254

Source: Eurostat, 2007

e-Cadastre as a case study

Comparison between 2 alternatives to request Cadastral services

Traditional office alternative (paper-based approach, physical presence)

Information system alternative (e-Cadastre, digital services)

Users' perspective

Why do users choose one alternative or the other?

Which are the factors driving their choices?

Survey methodology

JRC survey – main questions

OFFICE

Physical Accessibility
- Number of offices
- Average distance
- Opening hours

Time (average)
- Access time (till service request)
- Waiting time (till service delivery)

Cost (average)
- Price per service

Users' categories
- Typology and scope of demand

Level of usage
- Number of services issued

E-CADASTRE

Accessibility
- Availability hours

Time (average)
- Access time (till service request)
- Waiting time (till service delivery)

Cost (average)
- Price per service

Users' categories
- Typology and scope of demand

Level of usage
- Number of services issued
- Use of the website

Main assumptions

Definition of Cadastral service

"the opportunity of researching and downloading cadastral data queries or, in other words, the request and certification of cadastral data. Furthermore, for cadastral data it was intended: cadastral unit typology, level of productivity, size, cadastral revenue, address, identification code, type of right and share, owner's personal data" (RSO, 2009)

JRC Survey Results /1

Response rate: 55%

Respondents	e-Cadastre fully in place	E-cadastre with limited use	E-cadastre in planning
24/44	15	6	3

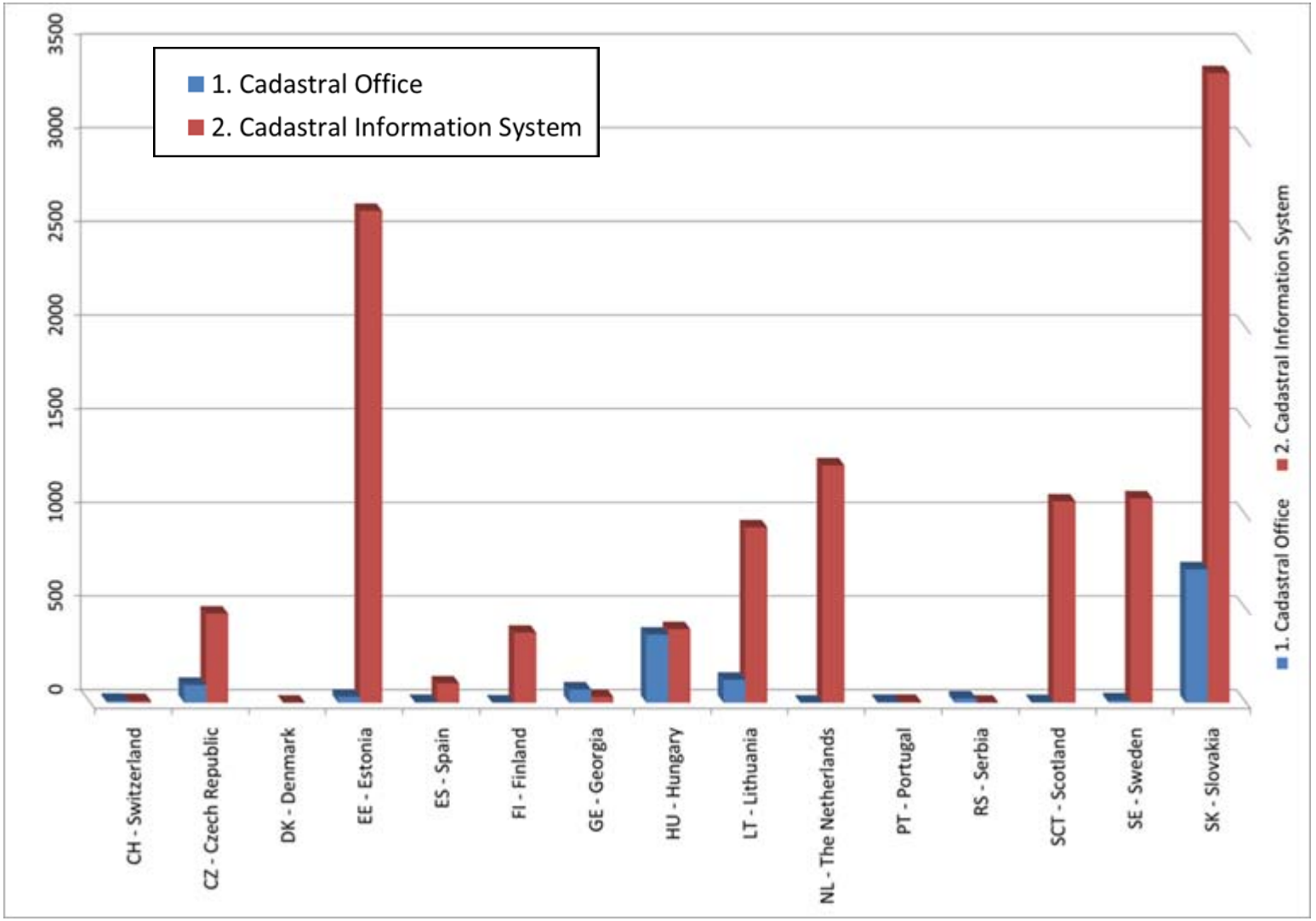
Comparative analysis on the 15 respondents with e-Cadastre fully in place:

Switzerland	Estonia	Georgia	The Netherlands	Scotland
Czech Republic	Spain	Hungary	Portugal	Sweden
Denmark	Finland	Lithuania	Serbia	Slovakia

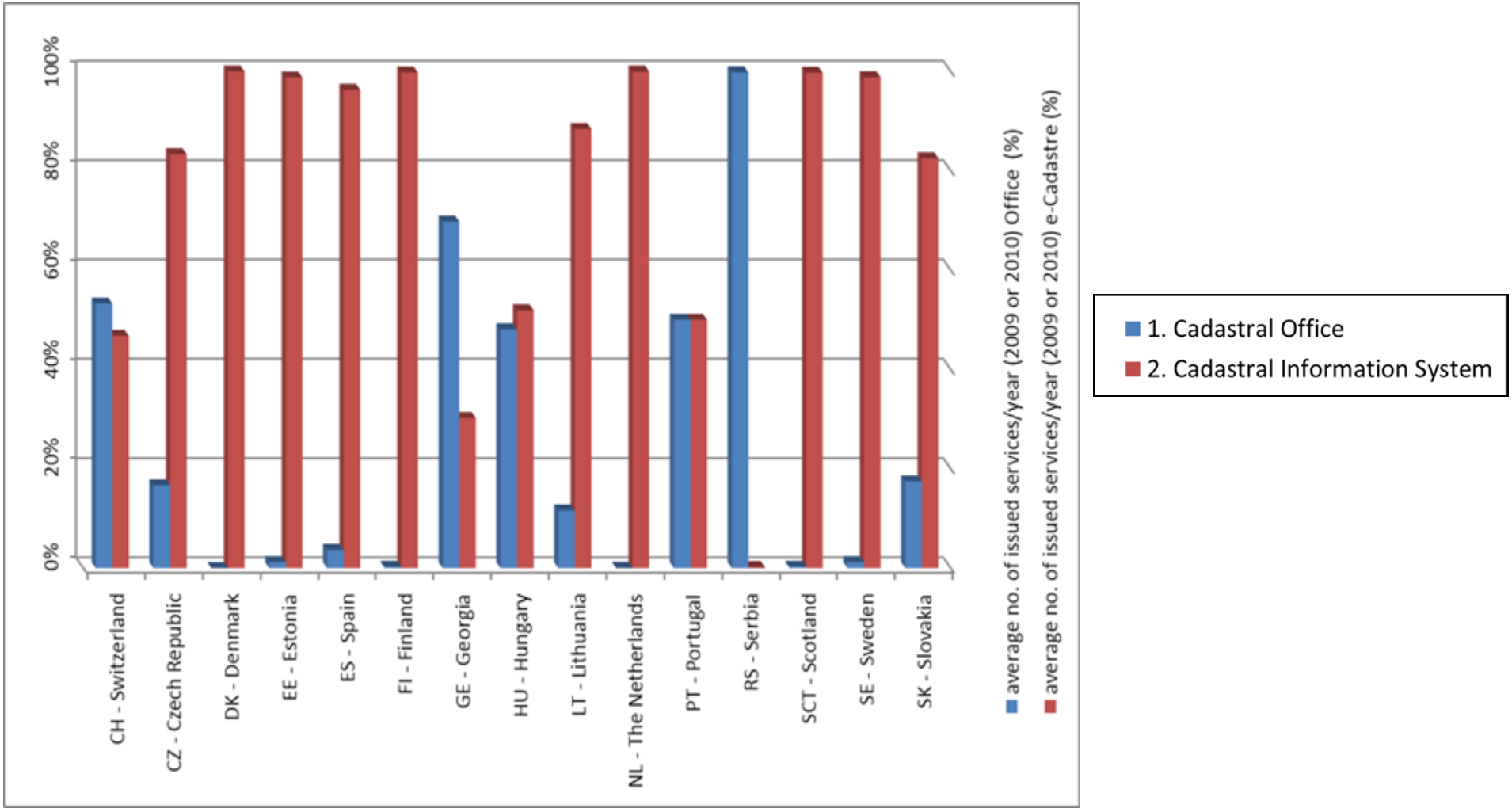
Services Issued/year

Country	Average Number of services issued per year (2009 or 2010)	
	Office	*e-Cadastre*
CH - Switzerland	81,000	71,000
CZ - Czech Republic	1,000,000	5,000,000
DK - Denmark	0	1,000
EE - Estonia	43,000	3,500,000
ES - Spain	181,000	5,000,000
FI - Finland	5,000	2,000,000
GE - Georgia	327,000	141,000
HU - Hungary	3,700,000	4,000,000
LT - Lithuania	408,000	3,200,000
NL - The Netherlands	8,000	21,000,000
PT - Portugal	40,000	40,000
RS - Serbia	166,000	327
SCT - Scotland	16,000	5,500,000
SE - Sweden	123,000	10,200,000
SK - Slovakia	3,800,000	18,300,000

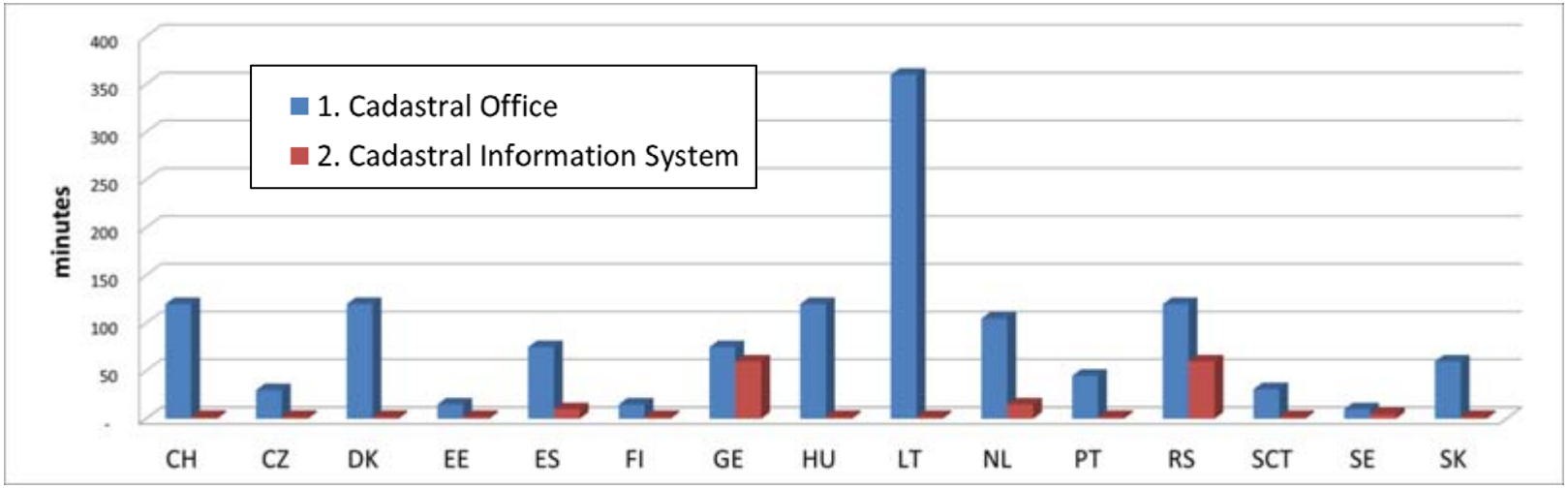
Number of services issued per year per thousand inhabitants



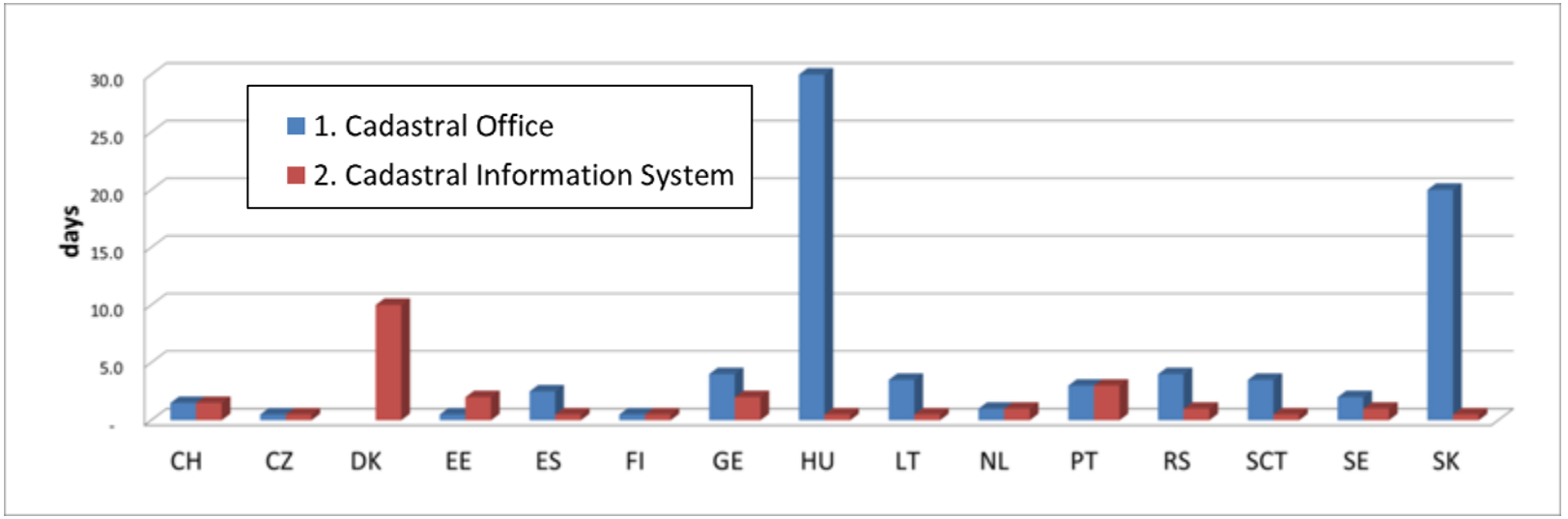
Services Issued/year – proportion between the two alternatives



Average time spent by users in accessing the service (min)



Average time spent by users in waiting for the service (days)



Average cost per service

Country	Average unitary price for services (€/service)		Difference (a-b) (€/service)	Annual savings using IS (€/year)
	Office (a)	e-Cadastre (b)		
CH - Switzerland	50.00	50.00	0	0
CZ - Czech Republic	3.00	2.00	1.00	5,000,000
DK - Denmark	--	6.10	--	--
EE - Estonia	11.18	0.01	11.17	39,304,797
ES - Spain	15.00	0	15.00	71,051,565
FI - Finland	11.18	6.10	5.08	10,165,815
GE - Georgia	20.00	20.00	0	0
HU - Hungary	22.89	12.91	9.98	39,254,179
LT - Lithuania	1.85	0.81	1.04	3,240,487
NL - The Netherlands	14.80	2.60	12.20	256,291,250
PT - Portugal	11.18	6.10	5,08	203,316
RS - Serbia	10.00	3.00	7.00	2,289,
SCT -Scotland	11.18	3.54	7.64	42,419,521
SE - Sweden	1.00	10.00	-9.00	-91,723,500
SK - Slovakia	12.07	0	12.07	220,098,349
Average	11.18	6.10	5.45	

Estimation of savings for the users - EU

Cost savings	€2.9 billion/year	
Access time savings	€4.8 billion/year	166,650 working years
Waiting time savings	€223 billion/year	7.7 million working years
Total	**€231 billion/year**	**7.86 million working years**

Average Value of Time for EU active citizens: 16.5 €/h

Conclusions and remarks/1

Added value of e-Cadastres

Providing more services to more people, quicker and cheaper

Wider impact on public administration (cadastral data as reference data for disaster management and so on…)

Why do users choose one alternative or the other?

Accessibility as factor that drive users' preferences

Definition of "cadastral service"

To be clarified, for enabling meaningful comparisons

Conclusions and remarks/2

E-Cadastre may not entirely substitute Cadastral Offices

Need to cater for customers with limited or no ICT skills/access

Physical presence needed for particular services

What about efficiency gains for Cadastral administrations?

Area to be explored, possibly by means of in-depth case studies, focusing on the introduction of a new service and performing a before- and after-analysis, analysing users' classifications

Next steps of JRC study

Set up a framework to model users' demand for Cadastral SDI, using parameters derived from the survey

Survey template may be found at

http://www.eurogeographics.org/about/cadastre-and-land-registry

Thank you!

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