

SPATIALIST

Survey on the current status of GIS and SDI in Flanders

Sam Vanden Broucke

Presentation outline

- Introduction
- Survey methodology
- Results



Introduction

- Conducted in february and march of 2011
- Sent to 458 public sector organizations in Flanders
 - Flemish regional level
 - Provincial level
 - Inter-municipal level
 - Municipal level
- Goal: describing organizational and inter-organizational aspects of SDI in Flanders in 2011, mix of new and old questions, comparing to situation in 2008 (0-measurement) wherever possible



Methodology



- Invitation to online survey sent to GIS or IT coordinator whenever possible
- Secondary list of department heads or organizational heads was also used

Limitations



- One person had to answer the entire survey, which includes questions related to technological, organizational, managerial, economic and legal aspects of SDI
- Comparing results of 2011 to those of 2008 means comparing answers from (often) different respondents

Response

	Sent to	Response 2011	Response 2008	Difference
Flemish	107	38 (35,5%)	34 (31,8%)	+3,7%
Provincial	10	9 (90,0%)	8 (80,0%)	+10,0%
Inter-municipal	33	12 (36,4%)	8 (24,2%)	+12,1%
Municipal	308	136 (44,2%)	161 (52,3%)	-8,1%
<u>Total</u>	458	195 (42,6%)	211 (46,1%)	-3,5%

Survey population overlap



	Only participated in 2008	Participated in 2008 and 2011	Only participated in 2011
Flemish	22	12	26
Provincial	0	8	1
Inter-municipal	4	4	8
Municipal	76	85	51
<u>Total</u>	102	109	86

- Part 1: Spatial data and GIS on the organizational level
- Part 2: Data flows and network configuration for 4 spatial datasets
- Part 3: Strengths and weaknesses of the SDI in Flanders from a user perspective

Results Part 1



- Producer, user, both or neither?
- Policy fields supported with spatial data?
- To what degree is spatial data integrated in the organization's business processes?
- Do organizations receive their spatial datasets free of cost?
- Is there a dedicated GIS budget? How big is it?

Neither user nor producer



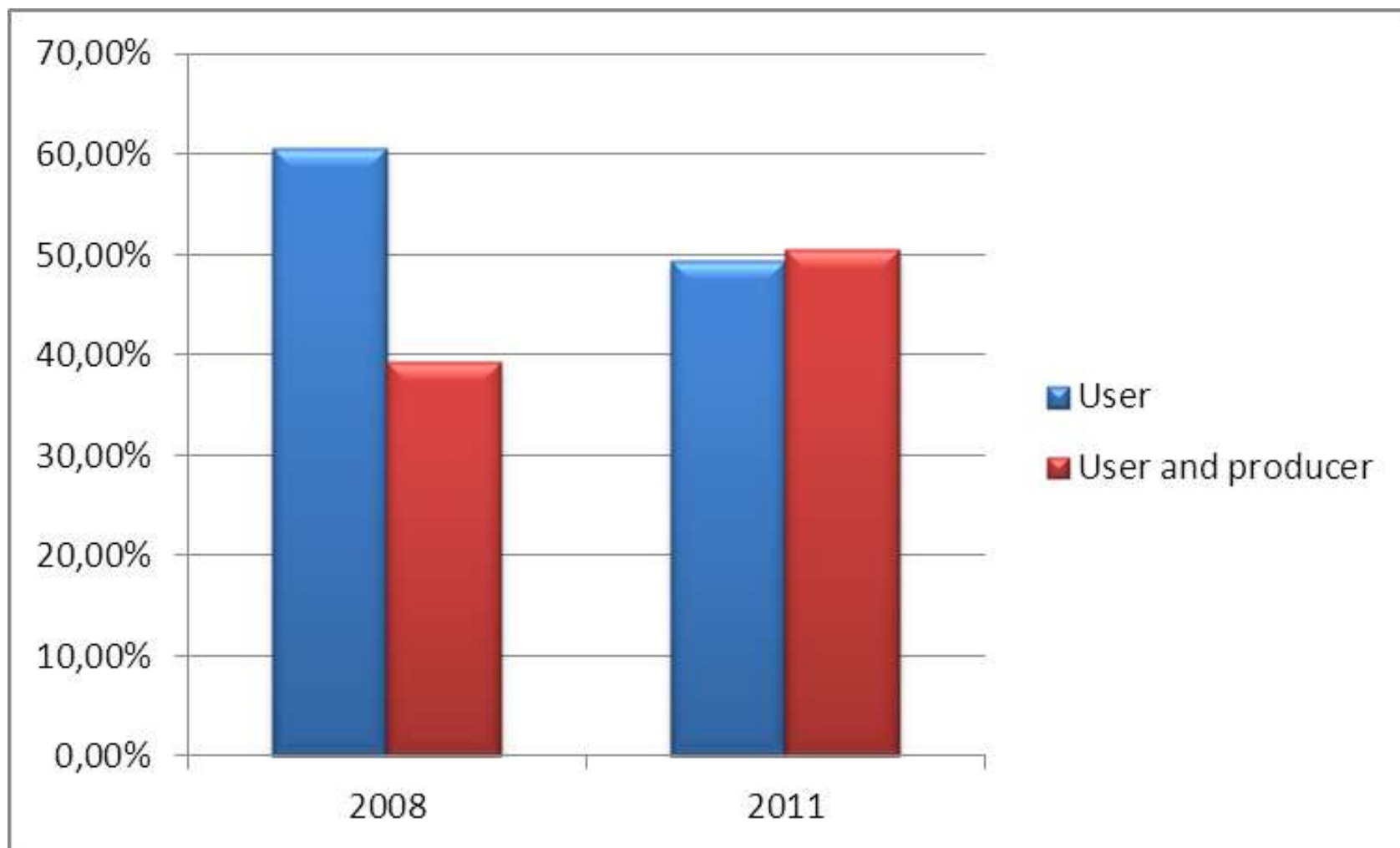
Number of organizations that do not use spatial data

	Number	Percentage
Flemish	6	15,8%
Provincial	0	0,0%
Inter-municipal	1	8,3%
Municipal	2	1,5%
<u>Total</u>	9	4,6%

Producer, user or both?

	User	User and producer
Flemish	40,6% (13)	59,4% (19)
Provincial	44,4% (4)	55,6% (5)
Inter-municipal	36,4% (4)	63,6% (7)
Municipal	59,7% (80)	40,3% (54)
Total	54,3% (101)	45,7% (85)

Producer, user or both? (evolution)



Policy fields



	Number	Percentage
Spatial planning	169	90,9%
Public works	128	68,8%
Environmental policy	111	59,7%
Traffic policy	89	47,8%
Recreation	61	32,8%
Water resource management	58	31,2%
Population	56	30,1%
Public safety	54	29,0%
Social policy	48	25,8%
Economic policy	36	19,4%
Agriculture	32	17,2%
Other	12	6,5%
Don't know	2	1,1%

Number of policy fields

	1-2 activities	3-4 activities	5-7 activities	7+ activities
Flemish	65,6% (21)	18,8% (6)	12,5% (4)	3,1% (1)
Provincial	22,2% (2)	11,1% (1)	11,1% (1)	55,6% (5)
Inter-municipal	36,4% (4)	36,4% (4)	27,3% (3)	-
Municipal	20,9% (28)	26,9% (36)	33,6% (45)	18,7% (25)
<u>Total</u>	29,6% (55)	25,3% (47)	28,5% (53)	16,7% (31)

GIS Integration

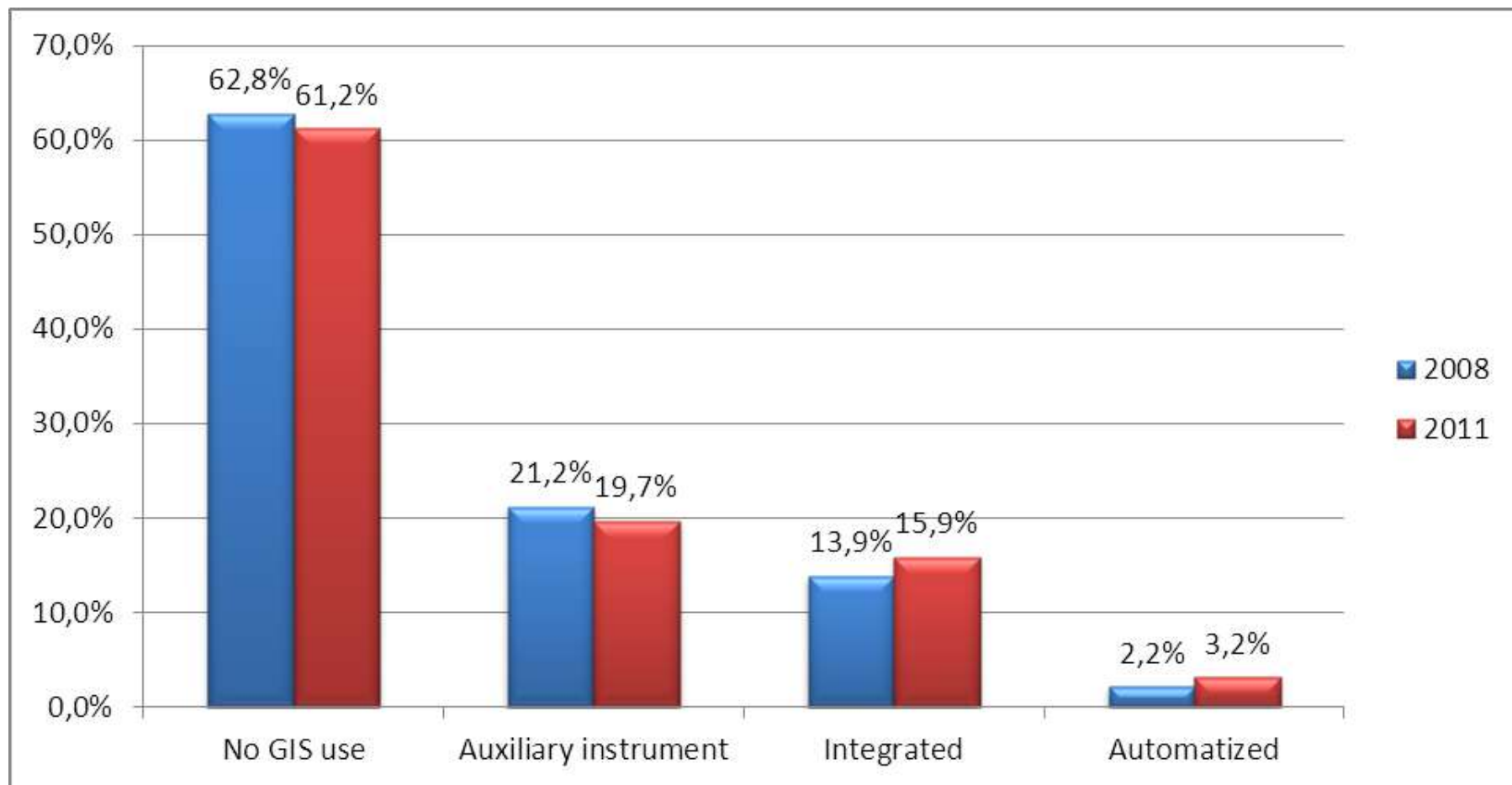


- 1. Employee does not use GIS at all
- 2. GIS is used as an auxiliary instrument
- 3. GIS is fully integrated in the business process
- 4. GIS is fully automatized. The employee's task is limited to monitoring

GIS Integration

	No GIS use	Auxiliary instrument	Integrated	Automatized
Flemish	60,1%	21,8%	16,1%	2,0%
Provincial	71,7%	20,6%	6,7%	1,1%
Inter-municipal	63,2%	17,7%	18,2%	0,9%
Municipal	59,2%	18,8%	17,6%	4,4%
<u>Total</u>	60,3%	19,3%	16,8%	3,6%

GIS Integration (Evolution)



Transaction cost

	Free of charge	Transaction cost	Market price	Don't know
Flemish	68,8%/ 81,3%*	25,0%/ 6,3%	0,0%/ 3,1%	6,3%/ 9,4%
Provincial	77,8%/ 88,9%	22,2%/ 11,1%	0,0%/ 0,0%	0,0%/ 0,0%
Inter-municipal	9,1%/ 72,7%	54,5%/ 9,1%	27,3%/ 9,1%	9,1%/ 9,1%
Municipal	60,4%/ 55,2%	24,6%/ 15,7%	3,0%/ 2,2%	11,9%/ 26,9%
<u>Total</u>	59,6%/ 62,4%	26,3%/ 13,4%	3,8%/ 2,7%	10,2%/ 21,5%

*Receiving spatial data/ distributing spatial data

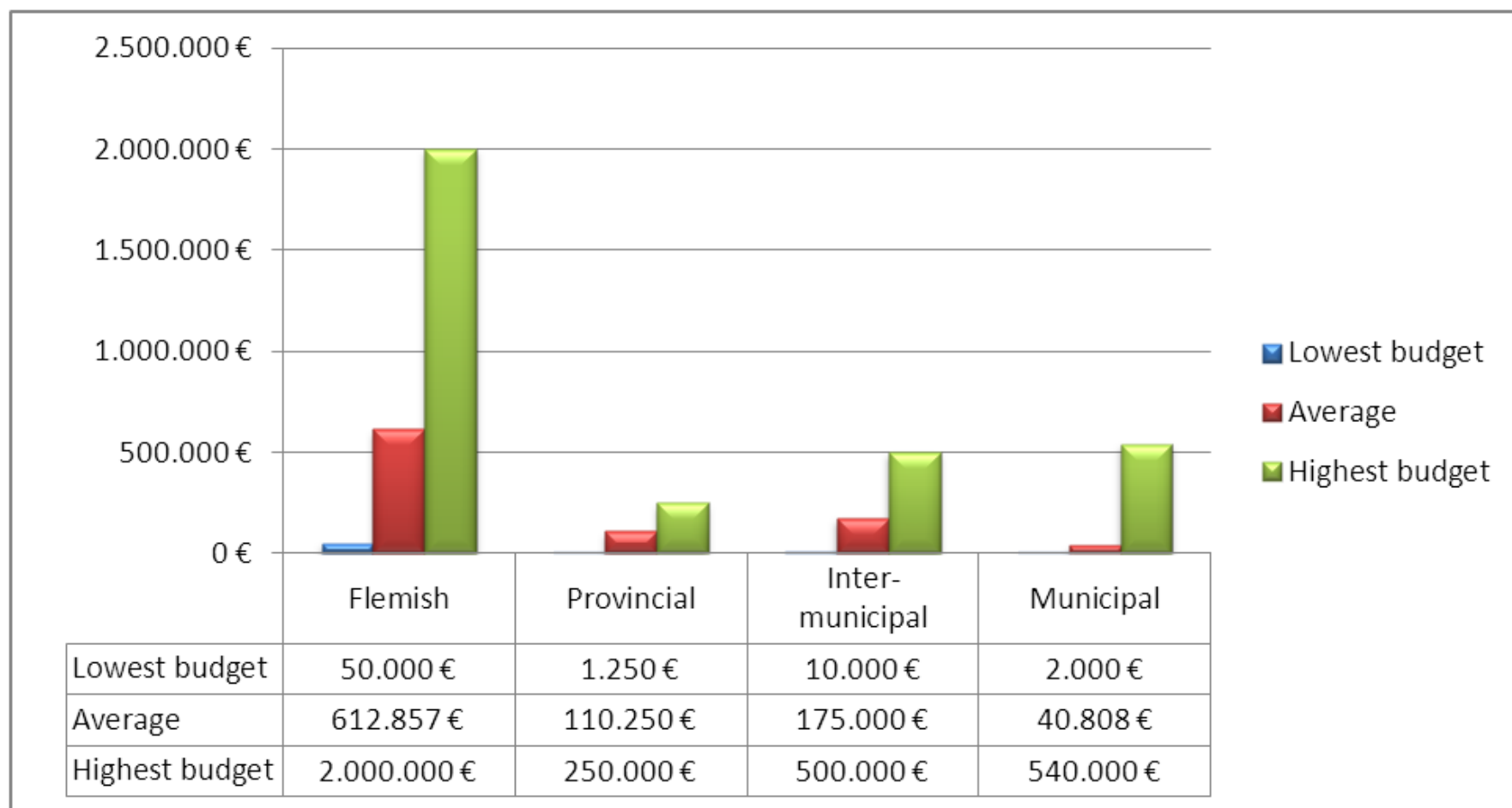
Specific budget for GIS



Does your organization's annual budget include an entry dedicated to GIS?

	Number	Percentage
Yes	55	29,6%
No	82	44,1%
Don't know	49	26,3%
Total	186	100%

Budget size



Results Part 2



- Focus on data flows rather than organizations
- Four types of spatial data
 - Parcels
 - Addresses
 - Roads
 - Hydrography

Questions asked



- Do you receive, produce and/or distribute this dataset?
- If you distribute this dataset, to whom?

If you distribute this dataset, to whom?



FEDERALE OVERHEID

- FOD Binnenlandse Zaken (Algemene Directie Instellingen en Bevolking (Rijksregister))
- FOD Budget en Beheerscontrole
- FOD Buitenlandse Zaken, Buitenlandse Handel en Ontwikkelingssamenwerking
- FOD Economie, KMO, Middenstand en Energie (Algemene Directie Statistiek en Economische Informatie (NIS))
- FOD Financiën (Algemene Administratie van de Patrimoniumdocumentatie (Kadaster))
- FOD Informatie- en Communicatietechnologie
- FOD Justitie
- FOD Kanselarij van de Eerste Minister
- FOD Mobiliteit en Vervoer
- FOD Personeel en Organisatie
- FOD Sociale Zekerheid en Openbare instellingen van sociale zekerheid
- FOD Volksgezondheid, Veiligheid van de Voedselketen en Leefmilieu
- FOD Werkgelegenheid, Arbeid en Sociaal Overleg
- Ministerie van Defensie

- POD Consumentenzaken
- POD Maatschappelijke Integratie, Armoedebestrijding en Sociale Economie
- POD Duurzame Ontwikkeling
- POD Wetenschapsbeleid
- Nationaal Geografisch Instituut
- Kruispuntbank van de Sociale Zekerheid
- Koninklijk Meteorologisch Instituut van België
- Federaal Agentschap voor de Veiligheid van de Voedselketen
- Federaal Planbureau

VLAAMSE OVERHEID

- Departement Diensten voor het Algemeen Regeringsbeleid (Cel GI)
- Agentschap voor Geografische Informatie Vlaanderen (AGIV)

- Departement Landbouw en Visserij
- Agentschap voor Landbouw en Visserij
- Instituut voor Landbouw en Visserijonderzoek (ILVO)
- vzw Vlaams Centrum voor Agro- en Visserijmarketing (VLAM)
 - Departement Economie, Wetenschap en Innovatie
 - Agentschap Ondernemen (AO)
 - Vlaamse Instelling voor Technologisch Onderzoek

- Departement Leefmilieu, Natuur en Energie
- Agentschap voor Natuur en Bos
- Instituut voor Natuur- en Bosonderzoek (INBO)
- Vlaams Energieagentschap
- Openbare Vlaamse Afvalstoffenmaatschappij

- Vlaamse Milieumaatschappij (VMM)
- Vlaamse Landmaatschappij (VLM)
- Vlaamse Reguleringsinstantie voor de Elektriciteits- en Gasmarkt (VREG)

- Departement Mobiliteit en Openbare Werken
- Agentschap Wegen en Verkeer
- Agentschap voor Maritieme Dienstverlening en Kust
- nv De Scheepvaart
- Vlaamse Vervoermaatschappij - De Lijn
- Waterwegen en Zeekanaal nv

- Departement Ruimtelijke Ordening, Woonbeleid en Onroerend Erfgoed
- Agentschap Ruimte en Erfgoed
- Agentschap Wonen-Vlaanderen
- Agentschap Inspectie Ruimtelijke Ordening, Woonbeleid en Onroerend Erfgoed
- Vlaams Instituut voor het Onroerend Erfgoed
- Vlaamse Maatschappij voor Sociaal Wonen (VMSW)

- Departement Bestuurszaken (Coördinatieceel Vlaams e-government)
- Departement Financiën en Begroting
- Departement Internationaal Vlaanderen
- Departement Onderwijs en Vorming
- Departement Welzijn, Volksgezondheid en Gezin
- Departement Cultuur, Jeugd, Sport en Media
- Departement Werk en Sociale Economie

PROVINCIES

- Provincie Antwerpen
- Provincie Limburg
- Provincie Oost-Vlaanderen
- Provincie Vlaams-Brabant
- Provincie West-Vlaanderen

GEMEENTEN

- Gemeente(n)

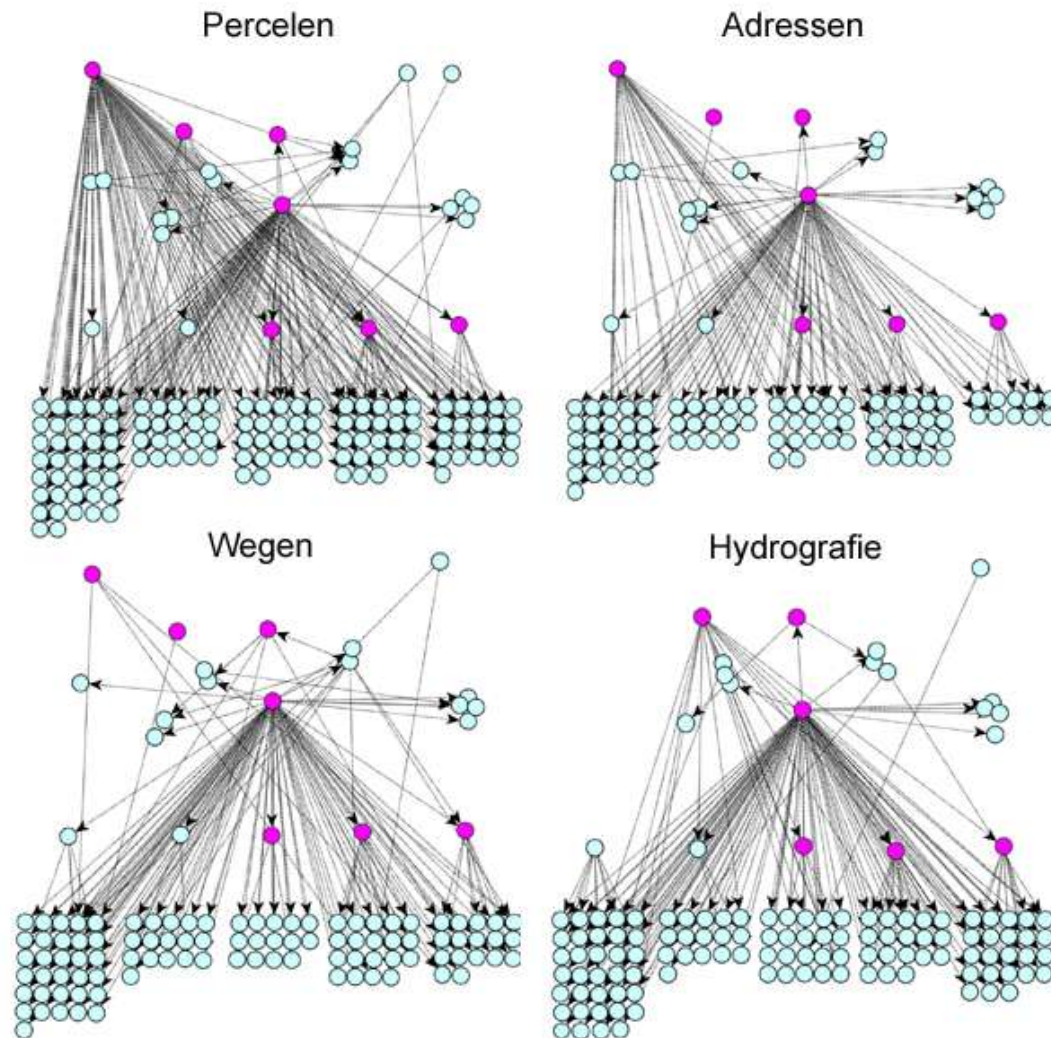
ANDERE

- Private organisatie
- Non-profit organisatie
- Burger
- Andere:

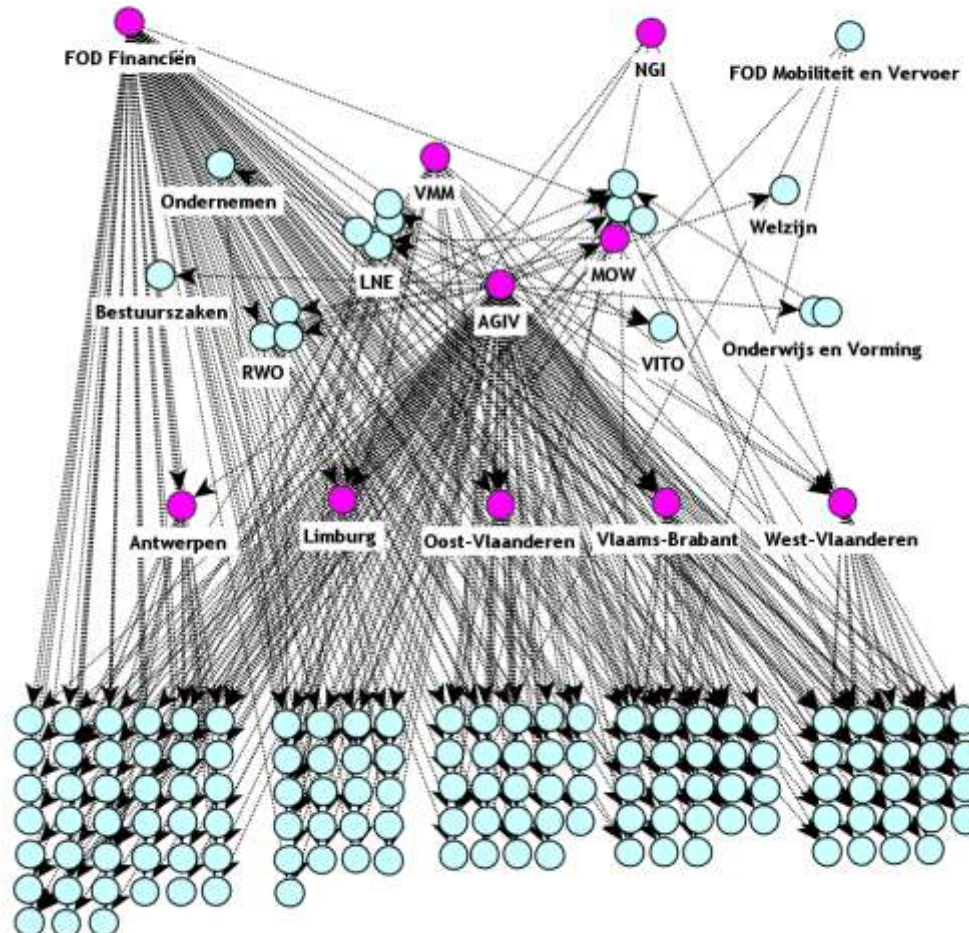
Results

	Produce	Receive	Distribute	None of the above
Parcels	13,0%	91,9%	5,4%	4,9%
Addresses	29,7%	73,0%	5,9%	7,6%
Roads	20,5%	75,1%	4,3%	15,7%
Hydrography	10,8%	80,0%	2,2%	16,2%

Spatial data flows



Spatial data flows



Network size and density

	Links	Nodes	Density
All data types, single	362	159	1,44%
All data types, multiple	688	159	0,68%
Parcels	246	147	1,15%
Addresses	134	108	1,16%
Roads	143	118	1,04%
Hydrography	165	131	0,97%

Outgoing connections

	Single	Multiple
1. AGIV	135 (37,3%)	370 (53,8%)
2. FPS Finance	108 (29,8%)	139 (20,2%)
3. Provinces (all five)	55 (15,2%)	107 (15,6%)
3. Province Vlaams-Brabant	16 (4,4%)	36 (5,2%)
4. Province West-Vlaanderen	15 (4,1%)	31 (4,5%)
5. VMM	21 (5,8%)	25 (3,6%)
6. Province Antwerpen	12 (3,3%)	20 (2,9%)
7. Province Oost-Vlaanderen	8 (2,2%)	13 (1,9%)
8. MOW	8 (2,2%)	11 (1,6%)
9. Agentschap Wegen en Verkeer	9 (2,5%)	9 (1,3%)
10. Province Limburg	4 (1,1%)	7 (1,0%)
11. NGI	4 (1,1%)	4 (0,6%)
12. RWO	4 (1,1%)	4 (0,6%)

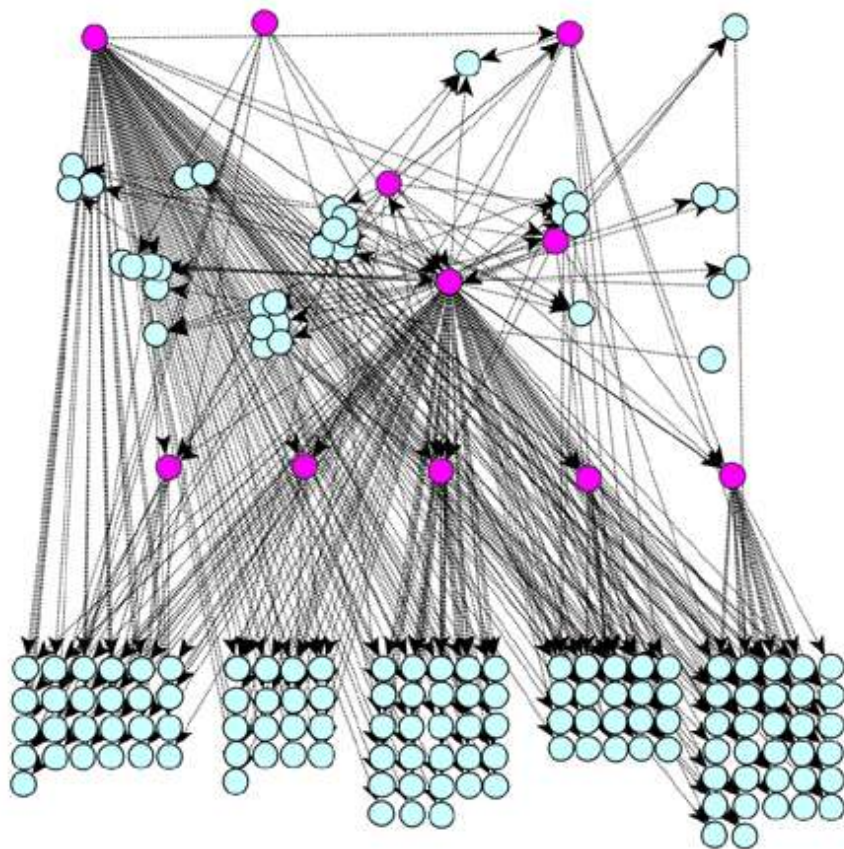
Municipalities

	Provinces	AGIV
At least one data type	42,0%	89,3%
Parcels	22,0%	56,7%
Addresses	18,0%	78,7%
Roads	26,3%	82,8%
Hydrography	32,4%	84,7%

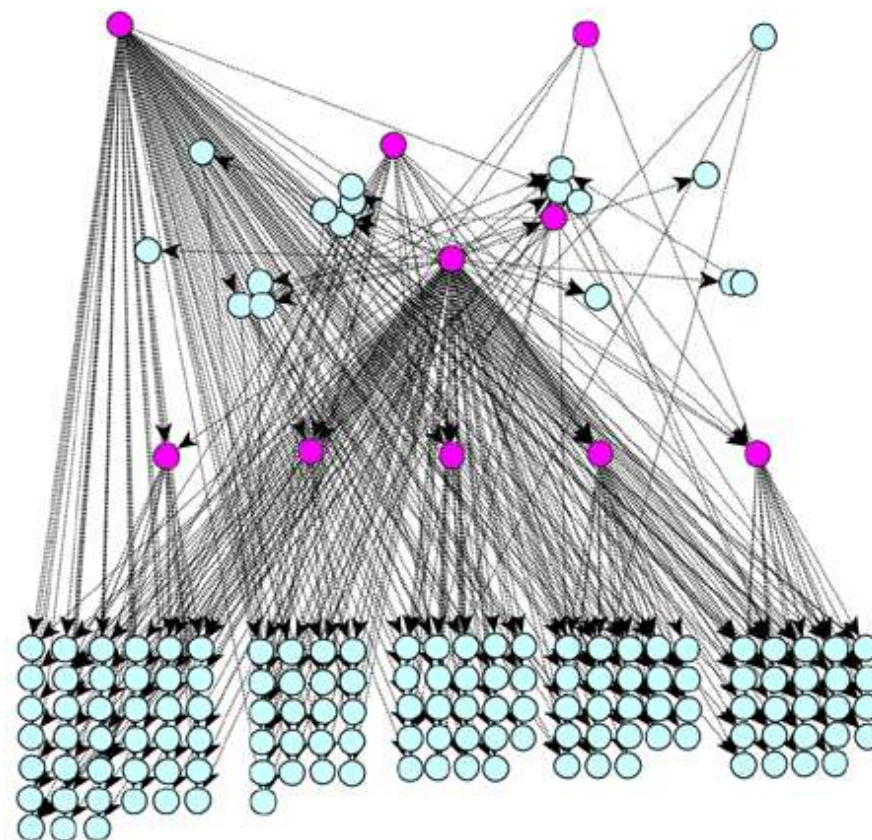
Percentage of municipalities that receive data from provinces/AGIV

Differences with 2008

2008



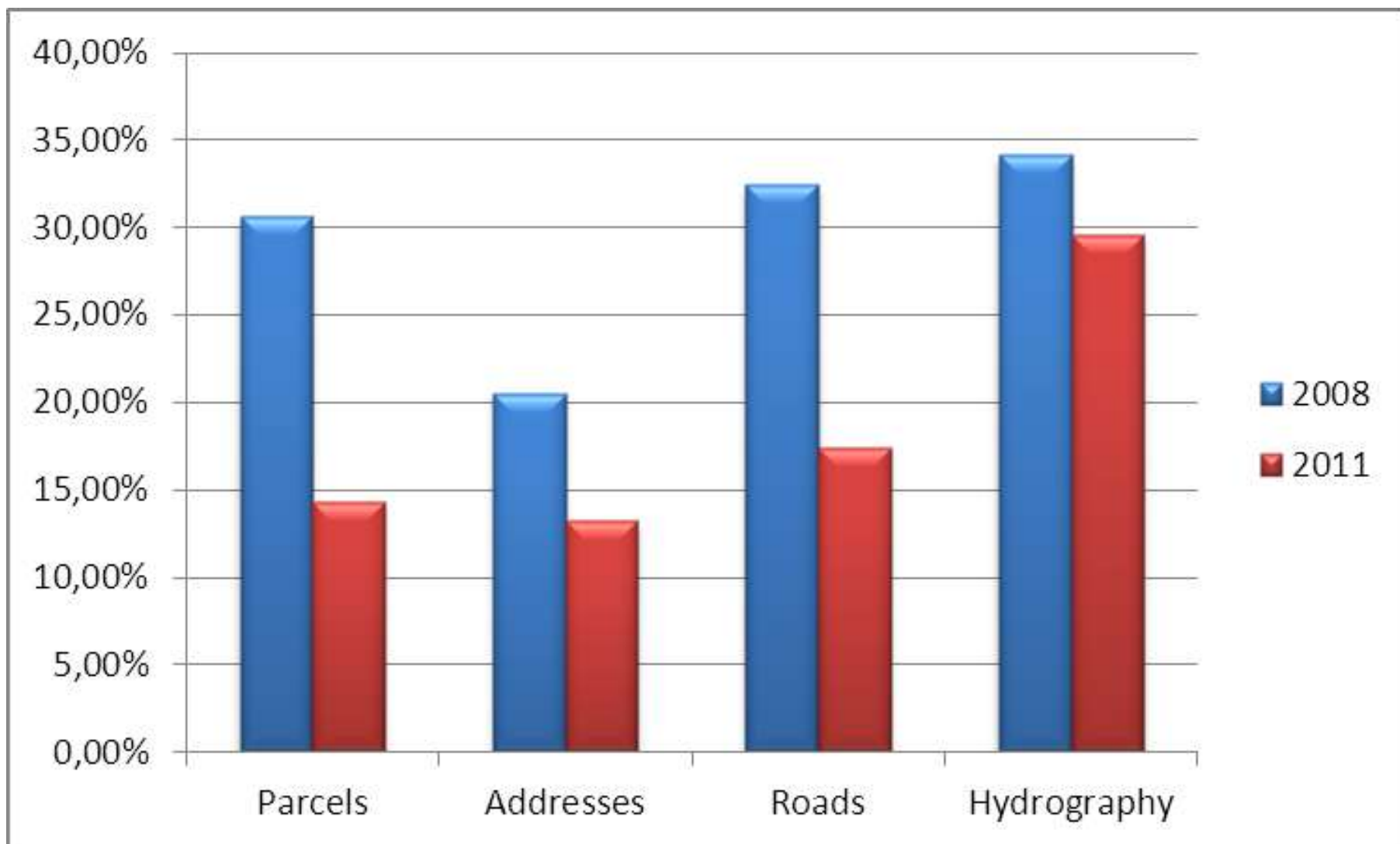
2011



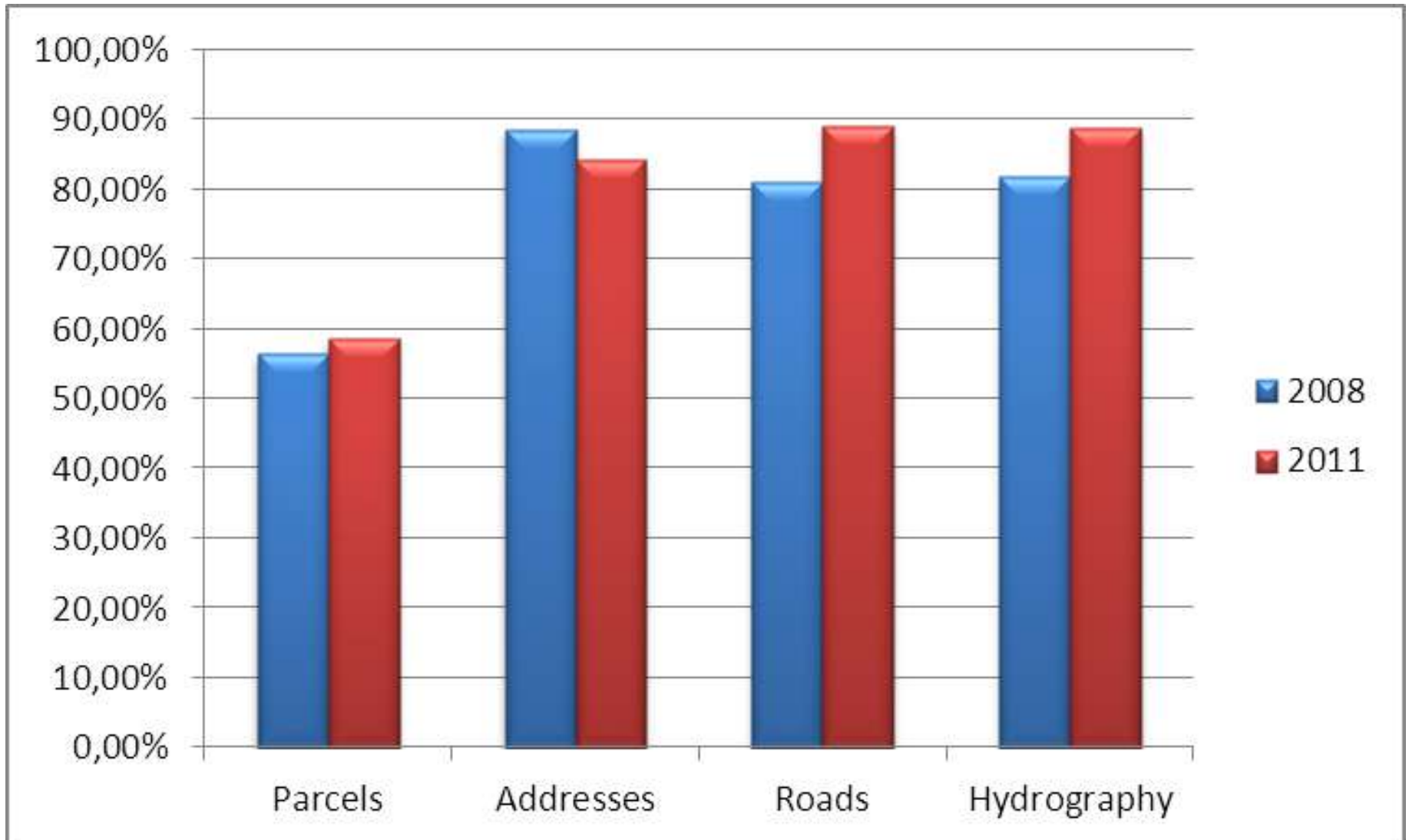
Network size and density

	2008			2011		
	Links	Nodes	Density	Links	Nodes	Density
Single	410	189	1,15%	362	159	1,44%
Multiple	713	189	0,50%	688	159	0,68%

Provinces as a supplier



AGIV as a supplier



Results Part 3



- What are, in your opinion, the most important strengths and weaknesses of the SDI in Flanders?
- In what areas have efforts resulted in significant progress? In what areas has progress been unsatisfactory?

SDI Strengths



- 1. Data accessibility
- 2. Centralized data supply
- 3. High degree of uniformity
- 4. Extensive and varied supply of datasets
- 5. Free of cost

SDI Weaknesses



- 1. Not up to date / actual
- 2. Access limitations
- 3. Not immediately applicable
- 4. Low data reliability
- 5. Lack of coordination

Progress?

	Significant progress	Insufficient progress	Difference
1. Data accessibility	63,4%	18,8%	44,6%
2. More extensive data supply	57,0%	8,6%	48,4%
3. Standardization	34,9%	22,6%	12,3%
4. Process integration	33,3%	23,7%	9,6%
5. Up to datedness	29,0%	37,1%	-8,1%
6. Stimulating demand	22,0%	4,8%	17,2%
7. Training	22,0%	20,4%	1,6%
8. Coordination	19,9%	35,5%	-15,6%
9. Don't know	10,2%	23,7%	-13,5%
10. Pricing	2,7%	22,0%	-19,3%
11. Others	1,1%	2,7%	-1,6%

Questions?

