

Producing grid data in the new production environment

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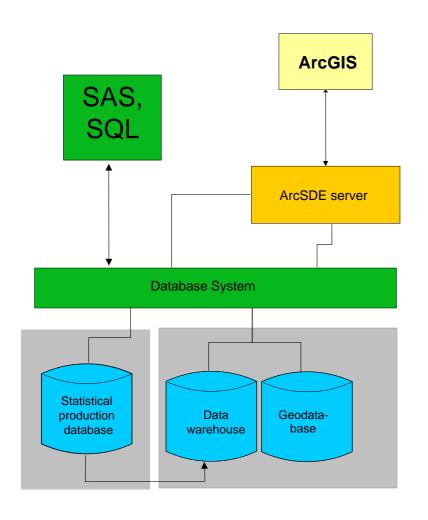
Topics

- 1) The new production environment and what is new in the grid producing method
- 2) What are the advantages of the new way
- 3) What are the next steps in the development work



- 1) The new production environment and what is new in the grid producing method
- Environmental renewals
 - Use of geodatabase
 - Use of data warehouse
 - More intensive use of SAS
- Effects on data
 - New structure of data Buildings at the core





Grid production environment

- Database; SQL Server database
- Data compilation; with e.g. SAS or SQL
- Spatiality; ESRI ArcSDE



The former way of handling spatiality of single unit data

- Separate statistics separate files
- Separate years separate files
- Spatiality differs in the separate files and years

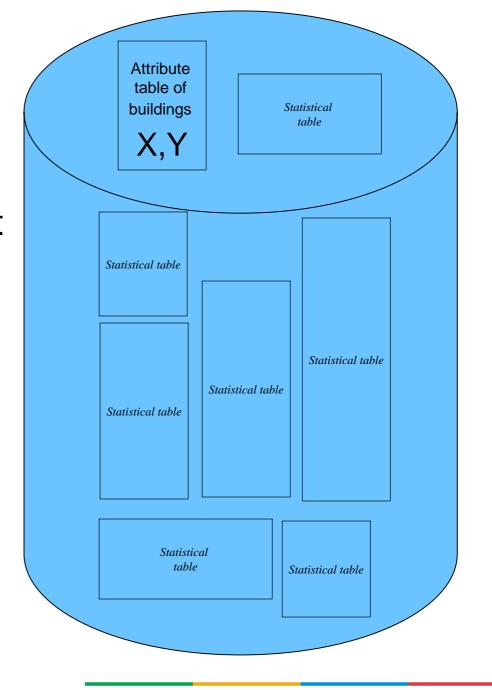
2455-047716-Sub-Ryld	506	2004 505 1 01 011 01 01 2 1
240 (01940) anto	505	2004 505 1 01 011 01 01 2 1
24 7 M E 10 Houtjöni	606	2004 505 1 01 011 01 01 2 1
2492 04520 Saarontaus	505	2004 606 1 01 011 01 01 2 1
2500 04740 SBlink56	505	2004 505 1 01 011 01 01 2 1
2502 47350 Kimankylä	407	2004 407 1 20 202 01 00 3 1
2514 07600 Myrskylő keskus	504	2004 504 1 20 201 01 00 3 1
2523 05820 Mustamännist+	106	2004 106 1 01 011 01 01 1 1
2525 07820 Potammi	407	2004 407 1 20 202 01 00 3 1
2526 07630 Pukaro	407	2004 407 1 20 202 01 00 3 1
2529 07565 Kantele	616	2004 616 1 20 201 01 00 3 1
2530 05800 Hyvinkitit keskus	106	2004 106 1 01 011 01 01 1 1
2531 07560 Pukikila keskus	616	2004 616 1 20 201 01 00 3 1
2541 05950 Ridasjörvi	106	2004 106 1 01 011 01 01 1 1
2542 04600 Mäntsölö keskus	505	2004 505 1 01 011 01 01 2 1
2547 07810 Ingermaninkylä	407	2004 407 1 20 202 01 00 3 1
2549 04680 Hirvhaara	505	2004 505 1 01 011 01 01 2 1
2551 05880 Paavala	106	2004 106 1 01 011 01 01 1 1
2662 03860 Pusula	540	2004 640 1 01 012 01 01 3 1
2561 05800 Hyvinkitit keskus	106	2004 106 1 01 011 01 01 1 1
2562 03600 Karldola keskus	224	2004 224 1 01 012 01 01 2 1
2566 05720 Kyelija	106	2004 106 1 01 011 01 01 1 1
2567 07800 Lapinjörvi keakus	407	2004 407 1 20 202 01 00 3 1

2458-04771 Saturkytš	506	2004 505 1 01 011 01 01 2 1
otne (01910) deto	505	2004 505 1 01 011 01 01 2 1
24 F MERIO Fruitjöni	606	2004 505 1 01 011 01 01 2 1
2492 04520 Saarontaus	506	2004 606 1 01 011 01 01 2 1
2500 04740 Sälinköö	505	2004 505 1 01 011 01 01 2 1
2502 47350 Kimankylä	407	2004 407 1 20 202 01 00 3 1
2514 07600 Myrskylö keskus	504	2004 504 1 20 201 01 00 3 1
2523 05820 Mustamännist+	106	2004 106 1 01 011 01 01 1 1
2525 07820 Potammi	407	2004 407 1 20 202 01 00 3 1
2526 07630 Pukaro	407	2004 407 1 20 202 01 00 3 1
2529 0T665 Kantele	616	2004 616 1 20 201 01 00 3 1
2530 05800 Hyvinkitit keskus	106	2004 106 1 01 011 01 01 1 1
2531 07560 Pukikila keskus	616	2004 616 1 20 201 01 00 3 1
2541 05950 Ridasjörvi	106	2004 106 1 01 011 01 01 1 1
2542 04600 Mäntsölö keskus	505	2004 505 1 01 011 01 01 2 1
2547 07810 Ingermaninkylä	407	2004 407 1 20 202 01 00 3 1
2549 04680 Hirvhaara	505	2004 505 1 01 011 01 01 2 1
2551 05880 Paavala	106	2004 106 1 01 011 01 01 1 1
2562 03860 Pasula	540	2004 640 1 01 012 01 01 3 1
2561 05800 Hyvinköli keskus	106	2004 106 1 01 011 01 01 1 1
2562 03600 Karkkila keskus	224	2004 224 1 01 012 01 01 2 1
2566 05720 Kyndjá	106	2004 106 1 01 011 01 01 1 1
2567 07800 Lapinjörvi keskus	407	2004 407 1 20 202 01 00 3 1
2558 NTS40 Livebreaki	407	2004 407 1 20 202 01 00 3 1



Spatiality of single unit data in the new environment

 Spatial information only once in the statistical production database as well in the data warehouse



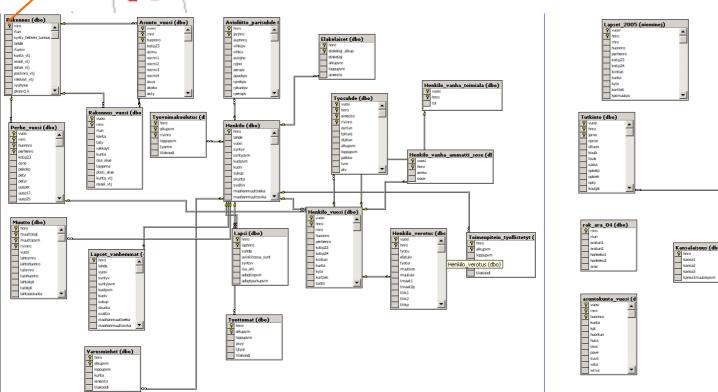


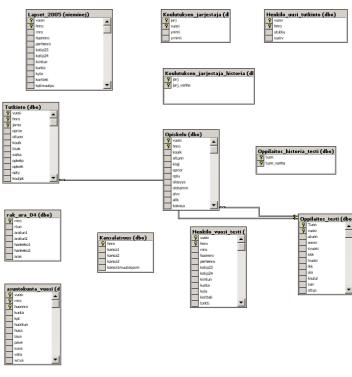
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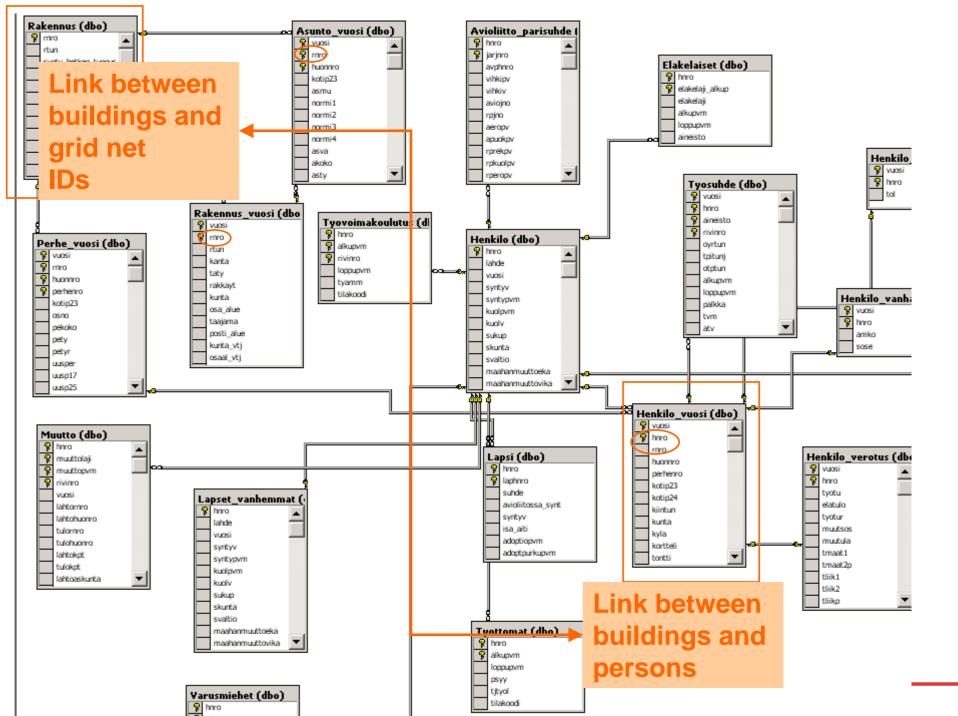
Building table -

key to the location of buildings

- co-ordinates of buildings
- ID of the grid cell the building is located in







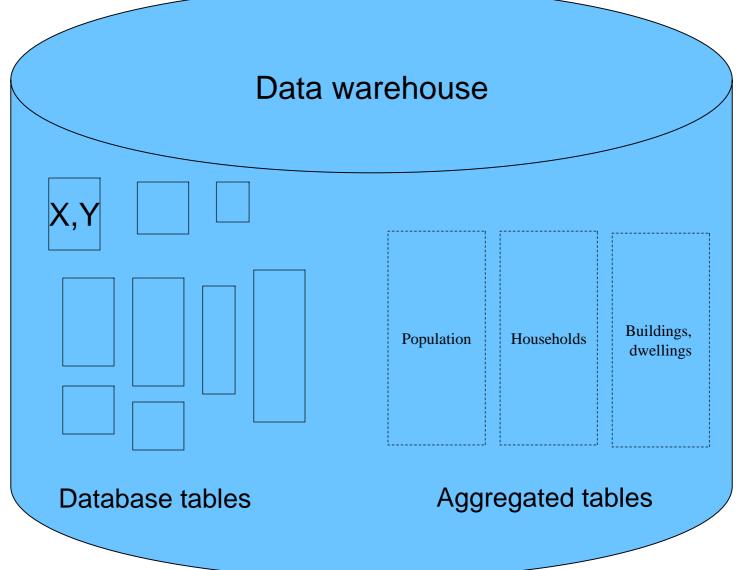


The work flow

- 1 Building table has information on which grid cell a particular building is located in (ID of grid cell)
- 2 Data selection by attribute data
- **3** Aggregating of buildings with same ID information
- 4 Creating of aggregated tables by grids to the data warehouse (wide data content, sensible data included)
- 5 ArcSDE view is created for certain use (e.g. data content of the Grid Database product)
 - a The view includes spatial join between the view and the grid net
 - Data security rules
- 6 Data exporting







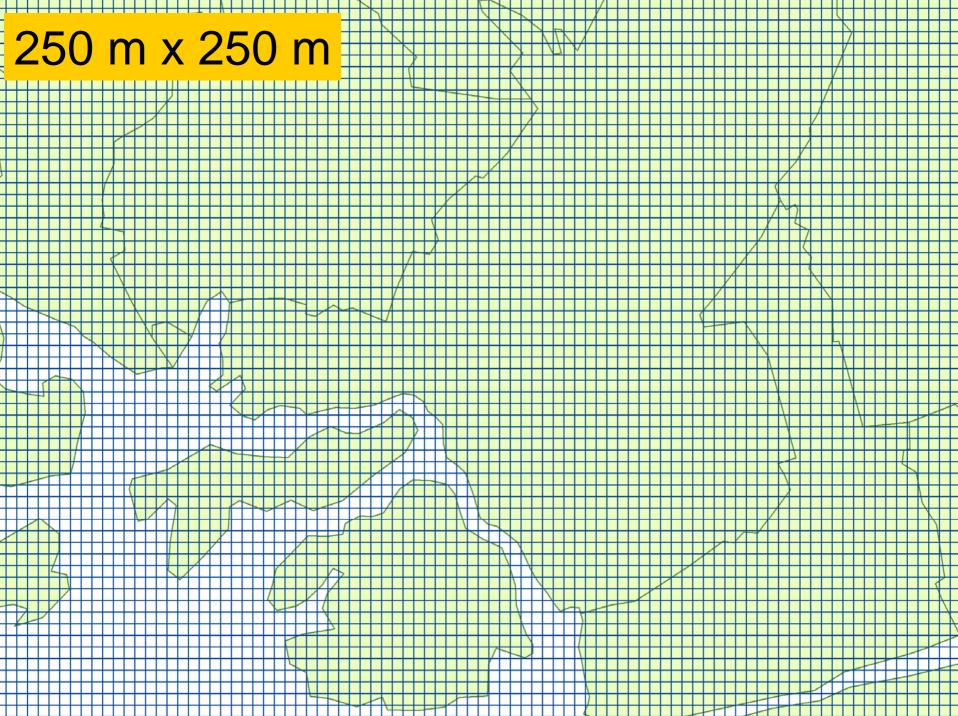


The grid net (250 m)

ID

П	OBJECTID *	IKOORD	PKOORD	NRO *	KUNTA *	KUNTANRO	shape *	shape.area	shape.len
	1	3167500	6807750	2151335			Polygon	62500	1000
	2	3167750	6807750	2151336			Polygon	62500	1000
П	3	3168000	6807750	2151337			Polygon	62500	1000
П	4	3168250	6807750	2151338			Polygon	62500	1000
П	5	3168500	6807750	2151339			Polygon	62500	1000
П	6	3168750	6807750	2151340			Polygon	62500	1000
	7	3169000	6807750	2151341	684	684	Polygon	62500	1000
	8	3169250	6807750	2151342	684		Polygon	62500	1000
	9	3169500	6807750	2151343	684		Polygon	62500	1000
	10	3169750	6807750	2151344	684		Polygon	62500	1000
	11	3170000	6807750	2151345	684		Polygon	62500	1000
Ш	12	3170250	6807750	2151346	684	684	Polygon	62500	1000
	13	3170500	6807750	2151347	684	684	Polygon	62500	1000
	14	3170750	6807750	2151348	684		Polygon	62500	1000
Ш	15	3171000	6807750	2151349	684	684	Polygon	62500	1000
Ш	16	3171250	6807750	2151350			Polygon	62500	1000
Щ	17	3171500	6807750	2151351			Polygon	62500	1000
Щ	18	3171750	6807750	2151352		684	Polygon	62500	1000
Щ	19	3172000	6807750	2151353			Polygon	62500	1000
Щ	20	3172250	6807750	2151354		684	Polygon	62500	1000
Щ	21	3172500	6807750	2151355		684	Polygon	62500	1000
Щ	22	3172750	6807750	2151356		684	Polygon	62500	1000
Щ	23	3173000	6807750	2151357			Polygon	62500	1000
Щ	24	3173250	6807750	2151358			Polygon	62500	1000
Щ	25	3173500	6807750	2151359			Polygon	62500	1000
Щ	26	3173750	6807750	2151360			Polygon	62500	1000
Щ	27	3174000	6807750	2151361			Polygon	62500	1000
Щ	28	3174250	6807750	2151362		684	Polygon	62500	1000
Щ	29	3174500	6807750	2151363			Polygon	62500	1000
Щ	30	3174750	6807750	2151364			Polygon	62500	1000

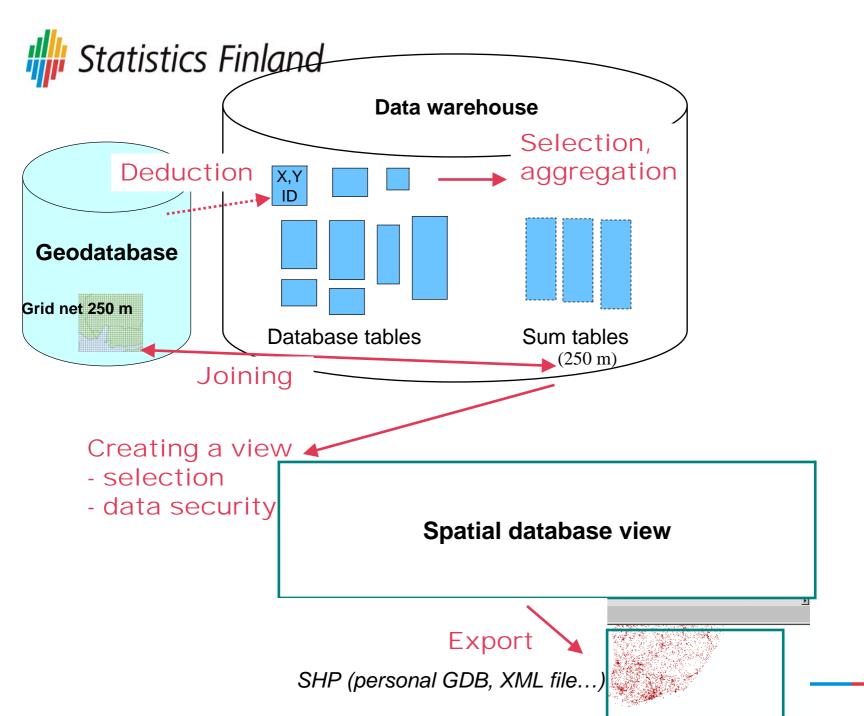
Projected co-ordinate system name: Finland_Zone_3 Geographic co-ordinate system name: GCS_KKJ





Spatial database view

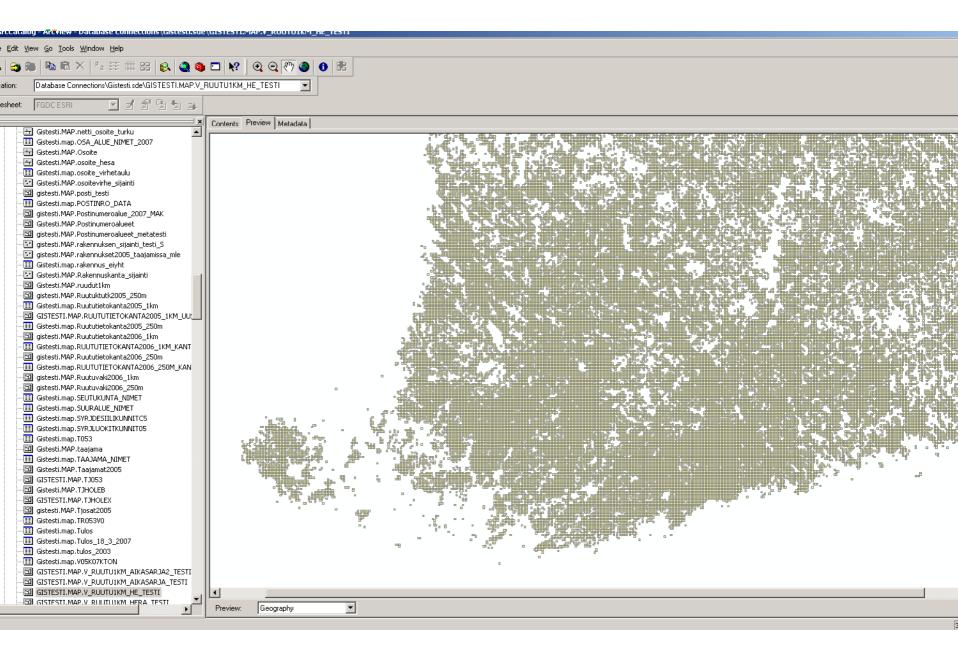
- Like an ordinary database view with spatial characters added
- Spatiality from one feature class
- A view may use many database tables or database views
- Data aggregating could also be done in this phase very heavy operation



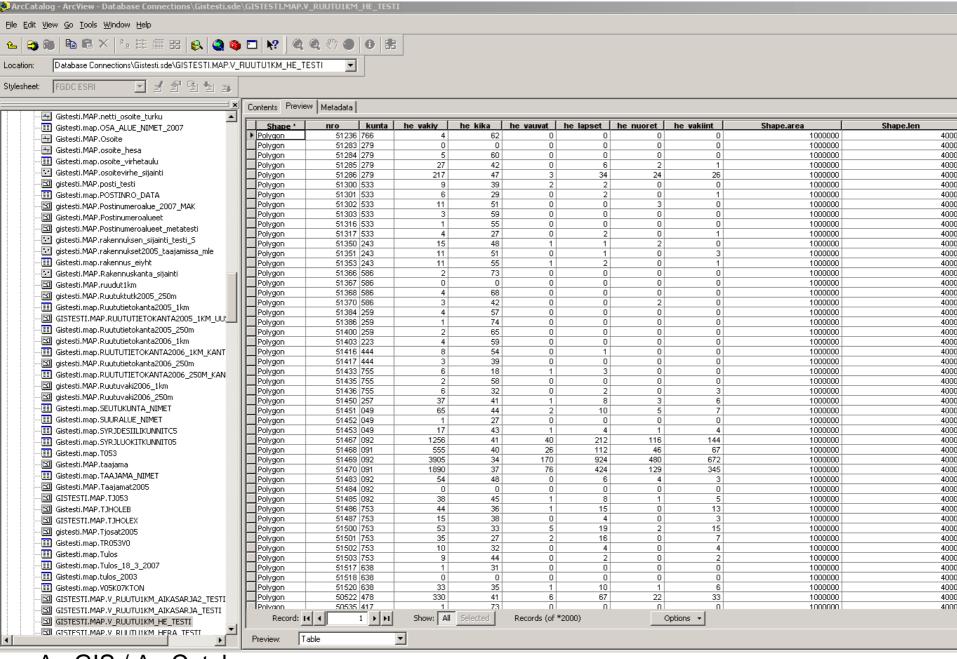


nro	he_vakiy	he_naiset	he_miehet	he_kika	he_vauvat	he_leikk_i	he_allek_i	he_alaas_i	he_teini_i	he_lapset	he_nuoret
8557	1	1	0	78	0	0	0	0	0	0	0
8558	20	10	10	28	0	4	4	5	0	9	0
8559	35	16	19	36	1	0	1	1	0	2	13
37882	17	9	8	39	0	0	0	1	2	3	2
37883	67	35	32	40	1	3	4	5	4	13	9
37884	23	12	11	39	0	3	3	1	3	7	2
37200	1	0	1	45	0	0	0	0	0	0	0
37204	2	1	1	70	0	0	0	0	0	0	0
37207	2	1	1	61	0	0	0	0	0	0	0
37208	11	5	6	41	1	1	2	1	0	3	1
86527	1	0	1	68	0	0	0	0	0	0	0
86531	2	1	1	69	0	0	0	0	0	0	0
6532	7	3	4	39	0	0	0	0	0	0	3
6540	0	0	0	0	0	0	0	0	0	0	0
5858	0	0	0	0	0	0	0	0	0	0	0
5178	0	0	0	0	0	0	0	0	0	0	0
5179	0	0	0	0	0	0	0	0	0	0	0
5182	0	0	0	0	0	0	0	0	0	0	0
4505	4	2	2	39	0	1	1	0	0	1	0
3832	0	0	0	0	0	0	0	0	0	0	0
3849	0	0	0	0	0	0	0	0	0	0	0
3157	1	0	1	75	0	0	0	0	0	0	0
3158	4	2	2	48	0	0	0	0	1	1	0
3159	5	1	4	48	0	0	0	0	0	0	1
2481	1	0	1	56	0	0	0	0	0	0	0
2503	1	0	1	57	0	0	0	0	0	0	0
1822	0	0	0	0	0	0	0	0	0	0	0
1828	1	1	0	73	0	0	0	0	0	0	0
1133	0	0	0	0	0	0	0	0	0	0	0
1134	0	0	0	0	0	0	0	0	0	0	0
0458	1	0	1	64	0	0	0	0	0	0	0
0459	4	1	3	50	0	0	0	0	0	0	1

View table - opened in the SQL Server Database Manager



ArcGIS / ArcCatalog map view



ArcGIS / ArcCatalog table view



2) What are the advantages of the new way

- Quality effects on
 - spatiality of single entity data (as basic data)
 - spatiality over time
- Number of specialists reduced, from 5-7 to 2-3 persons involved
- Number of work phases diminished
- Updating process easier to handle
- Production of grid products and commissions is quicker



3) What are the next steps in the development work

- Test phase ongoing
- Metadata production: ArcCatalog, XML database, SQL database
- Further development of the updating process
- Creation of aggregated tables by grids from time series data to the data warehouse
- Distribution in XML/GML format
- Later user interfaces for grid production