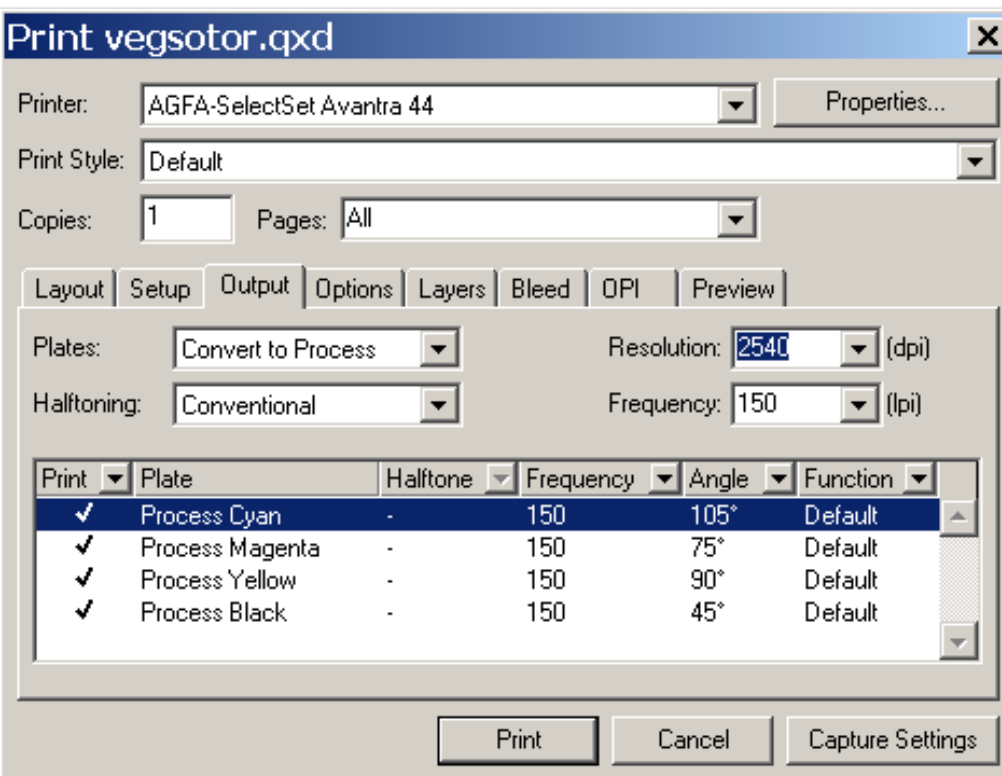


Prepress functions in different software types



The project is supported by the European Union and co-financed by the European Social Fund (grant agreement no. TÁMOP 4.2.1/B-09/1/KMR-2010-0003)

Software types

Prepress functions are available only in a few types of software where offset printing is a potential output (map production)

- General graphic software
- DTP
- Cartographic software
- GIS

Options

- ❑ The link between offset printing films for map publishing and geographic information system is the desktop publishing (originally).
- ❑ Although these special map publishing functions are already included in professional GIS software, these systems are too expensive and too complicated for small cartographic firms.
- ❑ This is the freedom of choice:
 - ❖ Low cost system (without database background) can use non-GIS environment.
 - ❖ If you have created a database linked to maps some of your GIS software can manage the map publishing.

General graphic software



General graphic software

- Handle raster and vector graphics, but the vector graphic features are more relevant for map producing.
- Full WYSIWYG representation, enhanced printing and colour separation functions, similar to Desktop Publishing software.
- Very advanced opportunities for graphic transformations (scale, mirror, skew etc), available for text features, too.
- Wide variety of graphic attributes for fill (homogenous colours, fountain fill, vector and/or raster patterns as fills) and outline (dash, arrow).
- Support of all important colour models.
- Pre-defined graphic elements, styles, attributes.
- Supporting of many computer file formats lets us export and import functions (graphic data exchange with other software).

General graphic software - history

- ❖ 1987: the first commercial vector graphic software: *Adobe Illustrator* (for Mac). Deneba launches Canvas software, now owned by ACD Systems.
- ❖ 1988: GEM Artline, the first commercial vector graphic software on IBM PC. Aldus launched *Freehand*, the software later was acquired by Macromedia (1995).
- ❖ 1989: the first release of *CorelDraw*. Version 3 (1992) first includes PhotoPaint for bitmap editing and uses TrueType fonts.
- ❖ 1990-93: Next, Silicon Graphic and Solaris versions of *Illustrator* and *CorelDraw*.
- ❖ 1996: Illustrator began to support TrueType. Corel Draw launched a Mac version-
- ❖ 2001: Corel acquires Designer software from Micrographx. Designer is made for creation of engineering drawings and is shipped with extensive libraries for the needs of engineers.
- ❖ 2004: Adobe acquires Macromedia (*Freehand*). No future version update for Freehand.
- ❖ 2006: CorelDraw X3, the first vector graphic software able to crop groups of vectors and bitmap images at the same time.



General graphic software - market

- ❖ Adobe Illustrator CS5
- ❖ CorelDraw X5

- ❖ ACD Canvas 11 GIS+
- ❖ Inkscape v. 0.48

*Color separation can be replaced by composite PDF export,
so other software can also be taken into account:*

- *Xara Designer Pro 6.0*

General graphic software comparison

	Creator	Latest version	List price (USD)
ACD Canvas	ACD	11 GIS+	\$650
<u>CorelDRAW</u> Graphics Suite	Corel	X5 (15)	\$429, \$199 upgrade (includes <u>Photopaint</u>)
<u>Macromedia</u> <u>Freehand</u>	<i>Adobe Systems</i>	<i>MX (11)</i>	<i>\$399, \$99 upgrade</i>
Adobe Illustrator	Adobe Systems	CS5 (15)	\$599, \$199 upgrade
<u>Inkscape</u>	Inkscape Team	0.48 (June 2010)	Free (Open Source)

Adobe Illustrator CS5

Advantages:

- ❖ Adobe is the leading graphic software provider.
- ❖ The AI file format is a common vector format for exchange.
- ❖ It has a long history, and its feature set allows the creation of complex vector artwork.
- ❖ Good co-operation with other software (DTP, image manipulation).
- ❖ It has a Middle Eastern language version.

Disadvantages:

- ❖ Expensive

Adobe Illustrator CS5



Avenza MaPublisher plugin for Illustrator

Bridges the gap between Geographic Information Systems (GIS) and high-end graphic design for high quality creation, high resolution printing and electronic publishing of maps. Cartographic quality map production is now faster, easier and better than it has ever been.

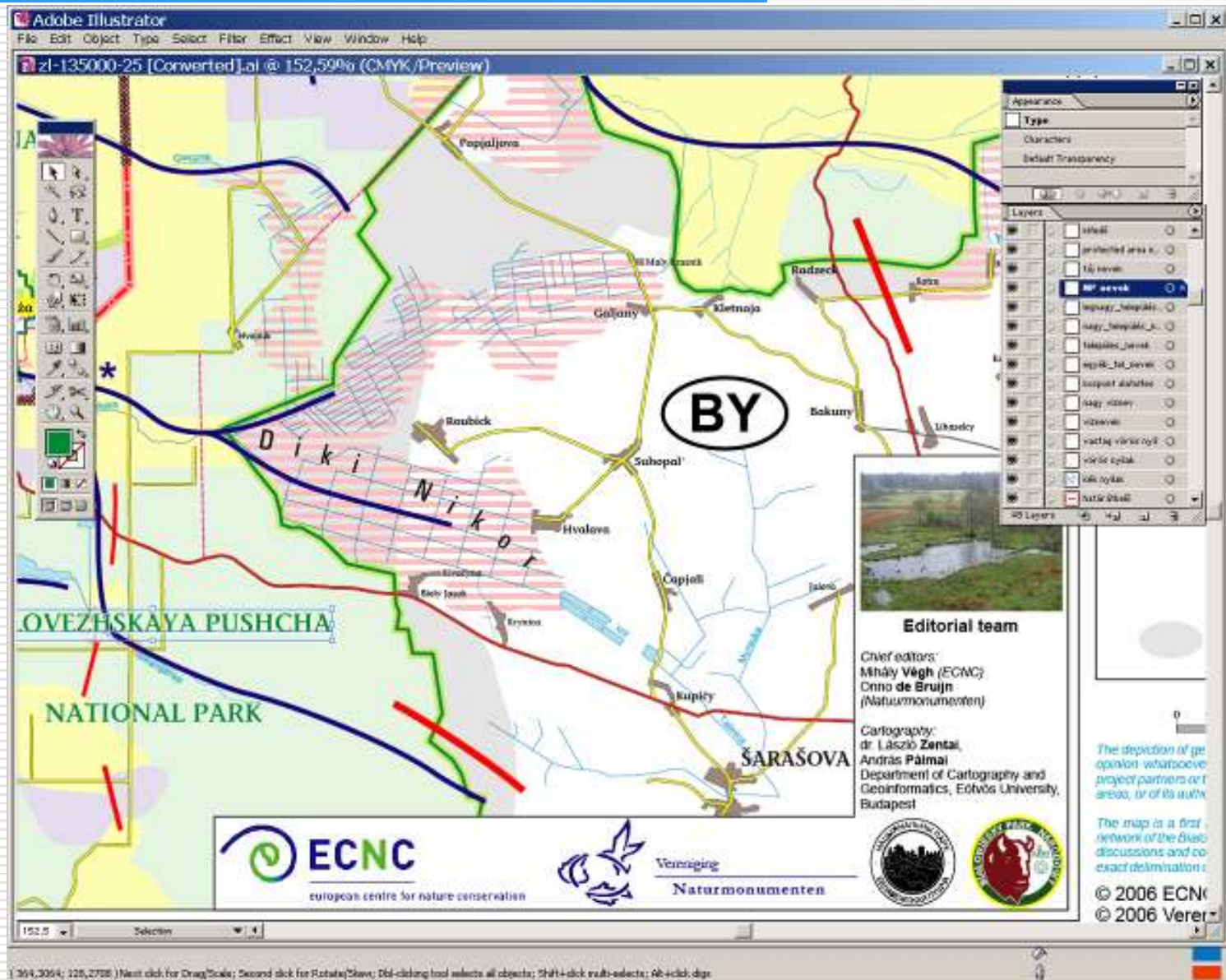
MaPublisher takes us into this environment seamlessly and effortlessly with the right GIS data management tools to facilitate the map production process.

The plugin combines the best features of GIS with Adobe Illustrator to enable native GIS data files to be used as a base for cartographic production.

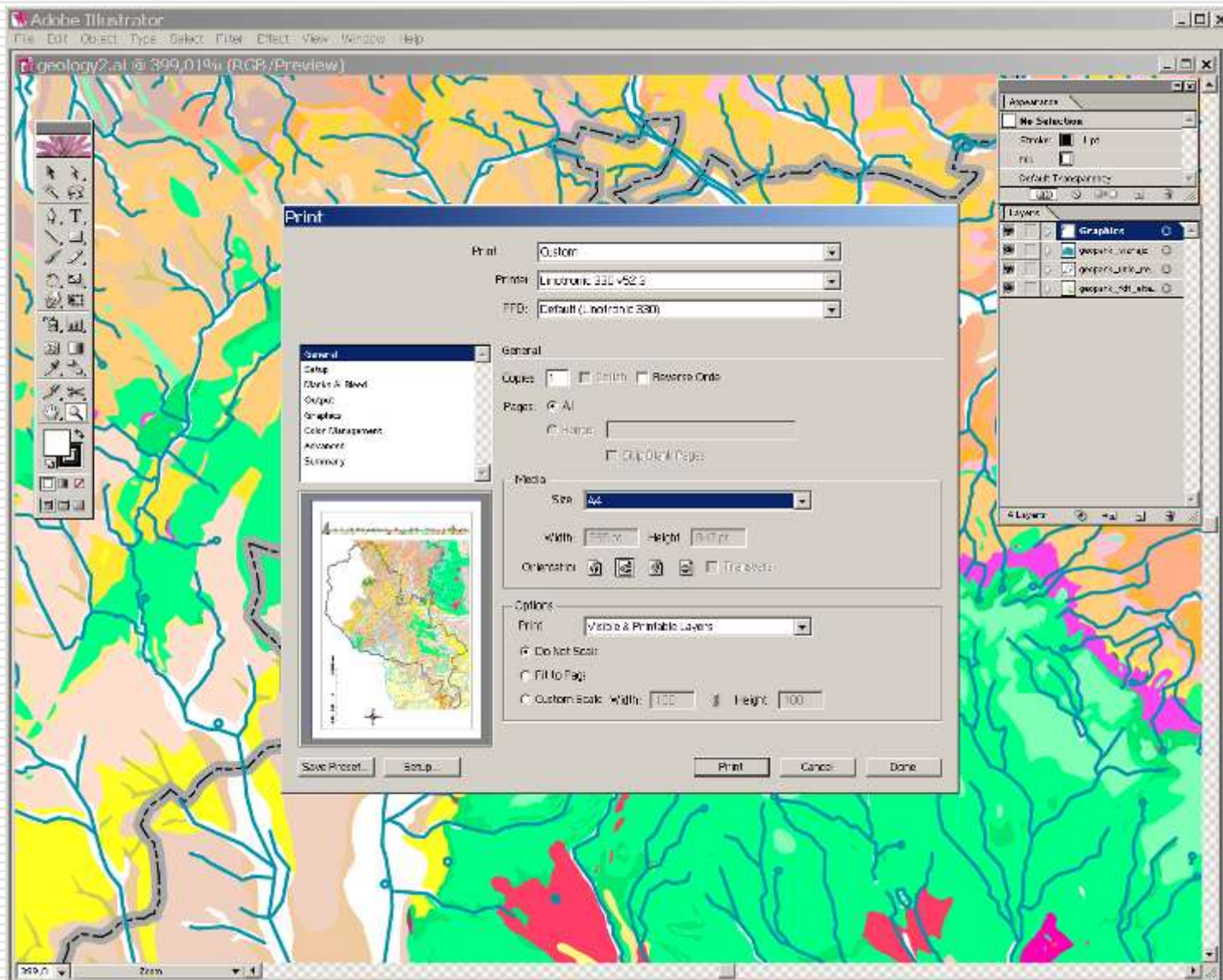
MaPublisher 8 supports the import of the most widely used GIS data formats, including those from ESRI, MapInfo, MicroStation, AutoCAD, Google. All GIS data attributes and geographic parameters are maintained during import and are fully accessible and editable during the cartographic process.



Adobe Illustrator



Adobe Illustrator - color separation



Adobe Illustrator - color separation

Prepress:

- ❖ Separation preview (CS4)
- ❖ PDF/X support (CS2)
- ❖ DeviceN colorspace support

CorelDraw X5

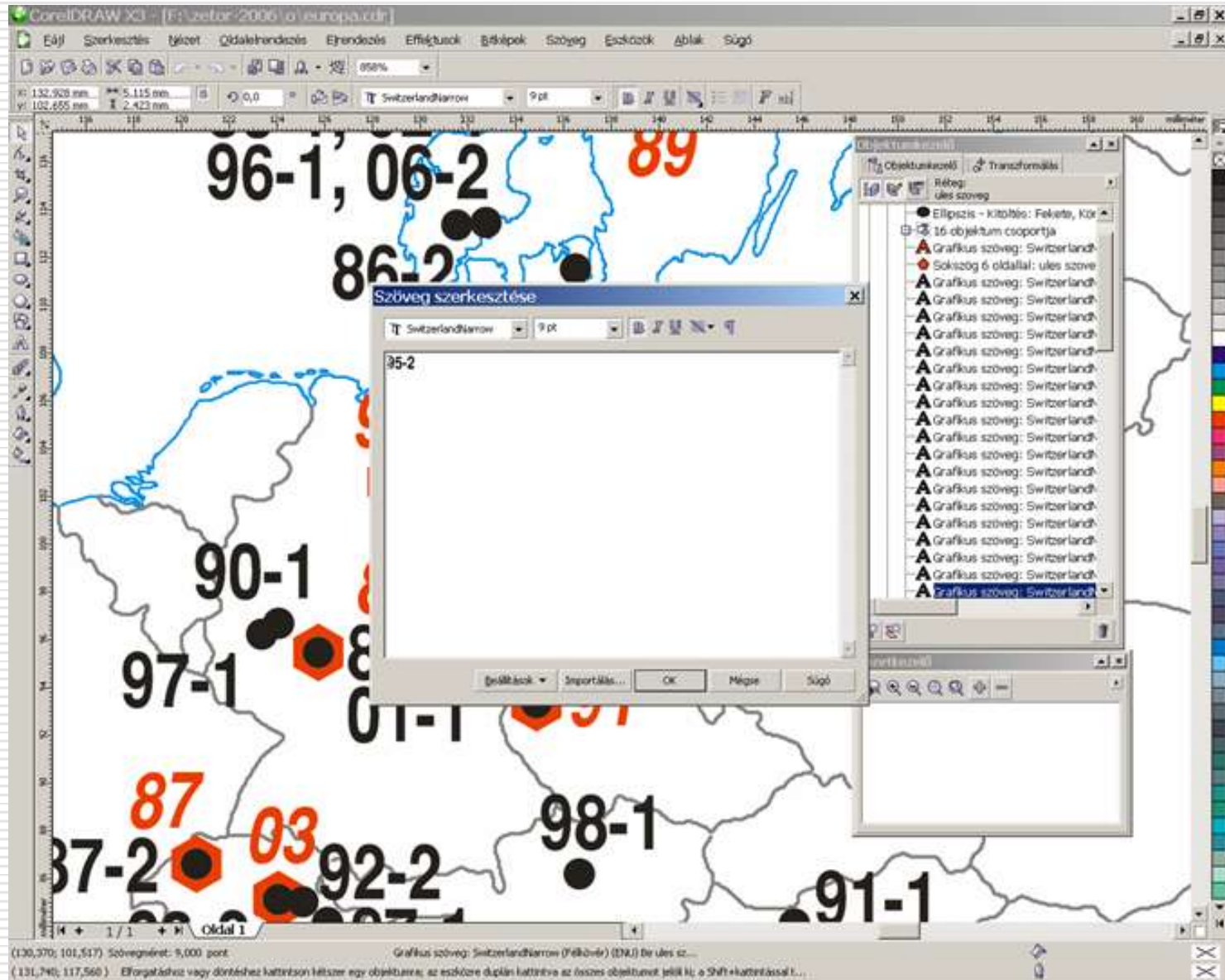
Advantages:

- ❖ The package includes other software components (Corel PhotoPaint)
- ❖ ClipArt gallery
- ❖ Good value/price ratio
- ❖ Rich export/import function
- ❖ Internal script language (CorelScript)
- ❖ Visual Basic Application macros creation and execution

Disadvantages:

- ❖ Available only in Windows environment

CorelDraw



CorelDraw - color separation

The screenshot displays the CorelDRAW 12 interface with a map of Europe and Asia. The 'Print' dialog is open, showing the 'Separations' tab. The 'Advanced Separations Settings' dialog is also open, showing the following table:

Color	Order	Frequency	Angle	Overprint
Cyan	1	150,000	15,000	<input type="checkbox"/>
Magenta	2	150,000	75,000	<input type="checkbox"/>
Yellow	3	150,000	0,000	<input type="checkbox"/>
Black	4	150,000	45,000	<input type="checkbox"/>

CorelDraw - color separation

Prepress:

- ❖ Long-term experience (preview is available since earlier versions)
- ❖ Advanced halftone settings and other print functions (tiling etc.)

ACD Canvas 11 GIS+

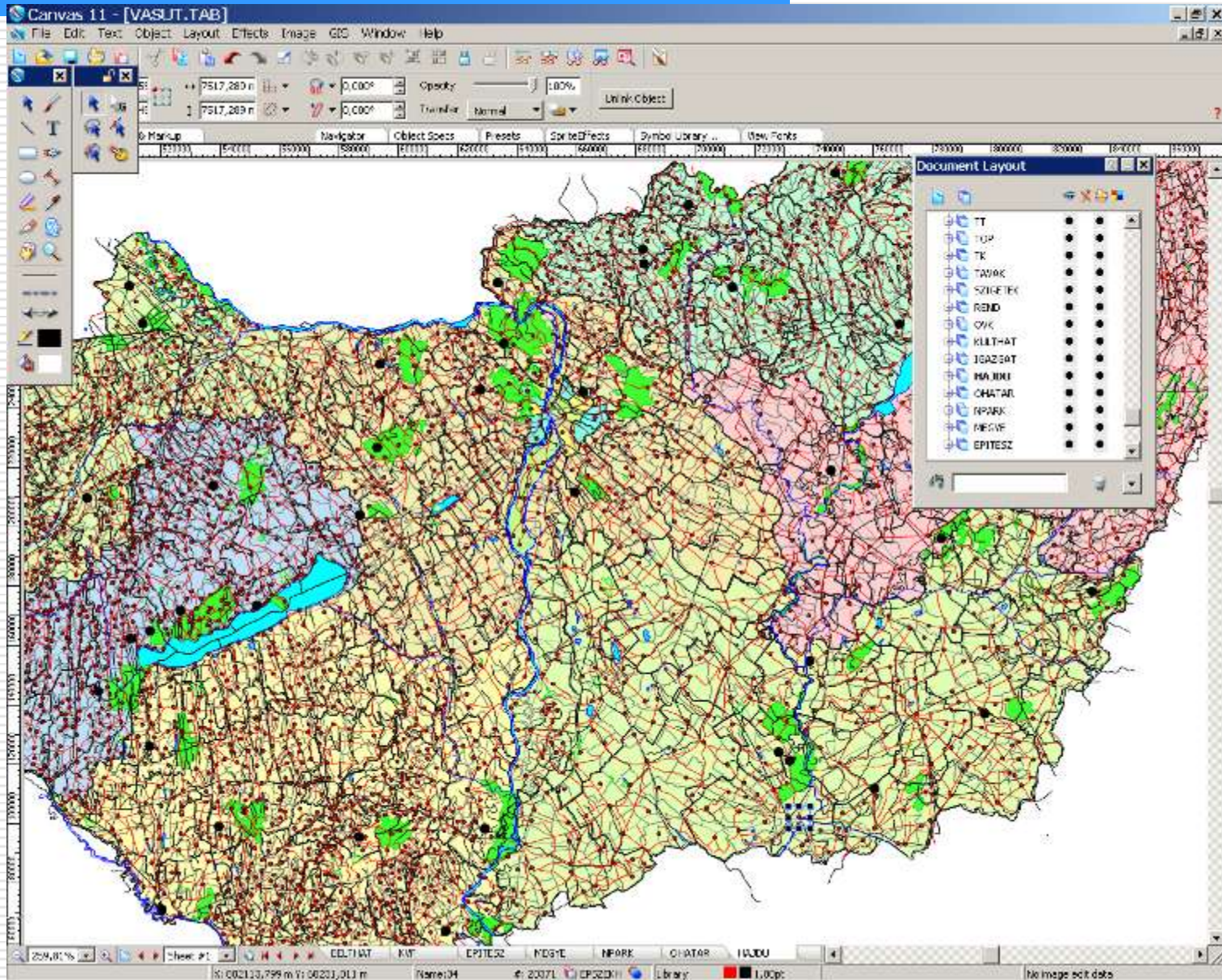
Advantages:

- ❖ Coordinate reference systems supported
- ❖ More than 1000 projections included
- ❖ More than 80 formats are supported for export/import
- ❖ The only general graphic software with serious GIS support functions

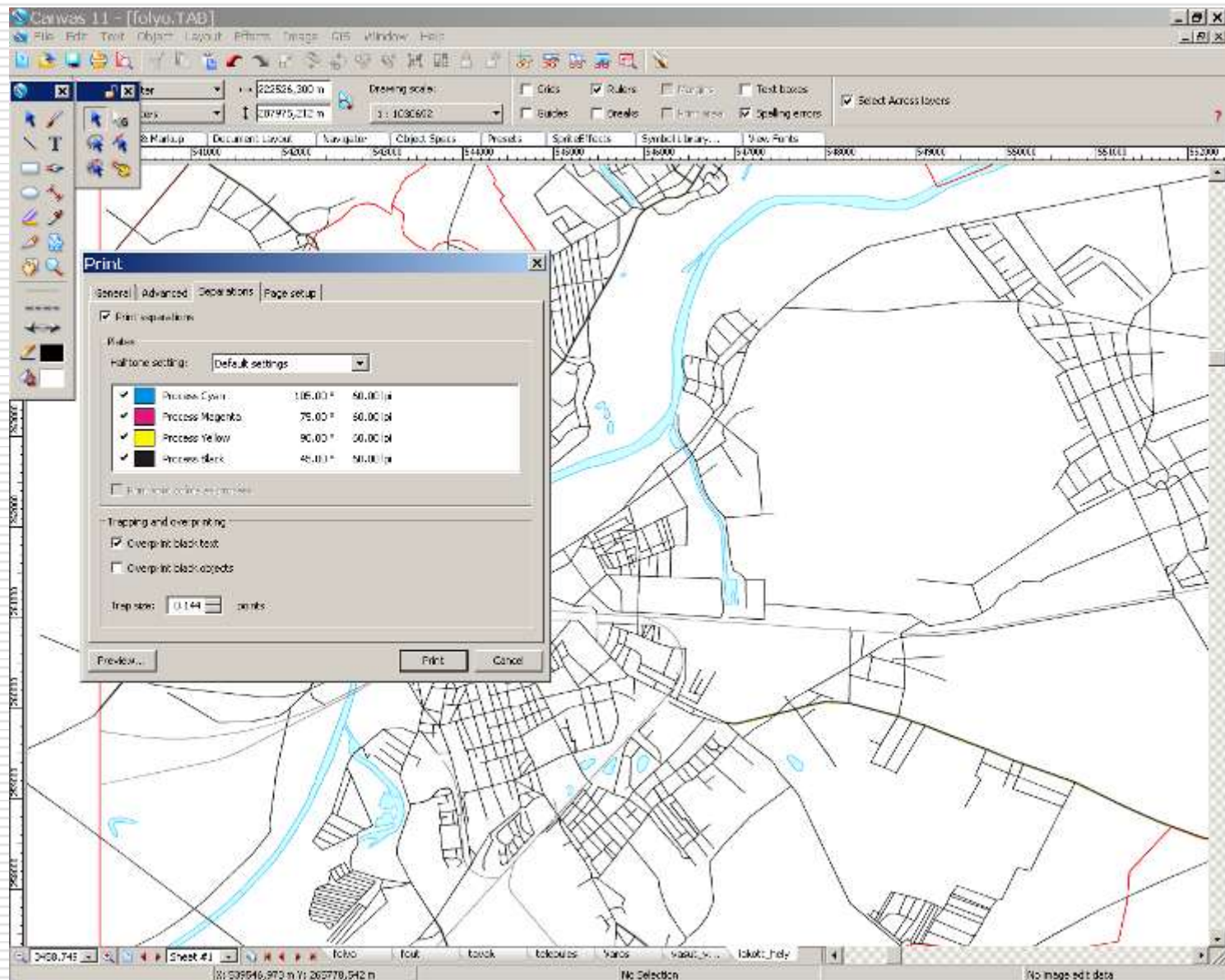
Disadvantages:

- ❖ Canvas has never been a well-known software product (the number of users is limited)

ACD Canvas 11 GIS+



ACD Canvas - color separation



ACD Canvas - color separation

Prepress:

- ❖ Interactive Print Preview includes centralized controls for an extensive array of print and page setup settings.
- ❖ Set tolerances - bleeds and trap (spread, choke, and overprint) options are integrated into the output features of Canvas.

Inkscape

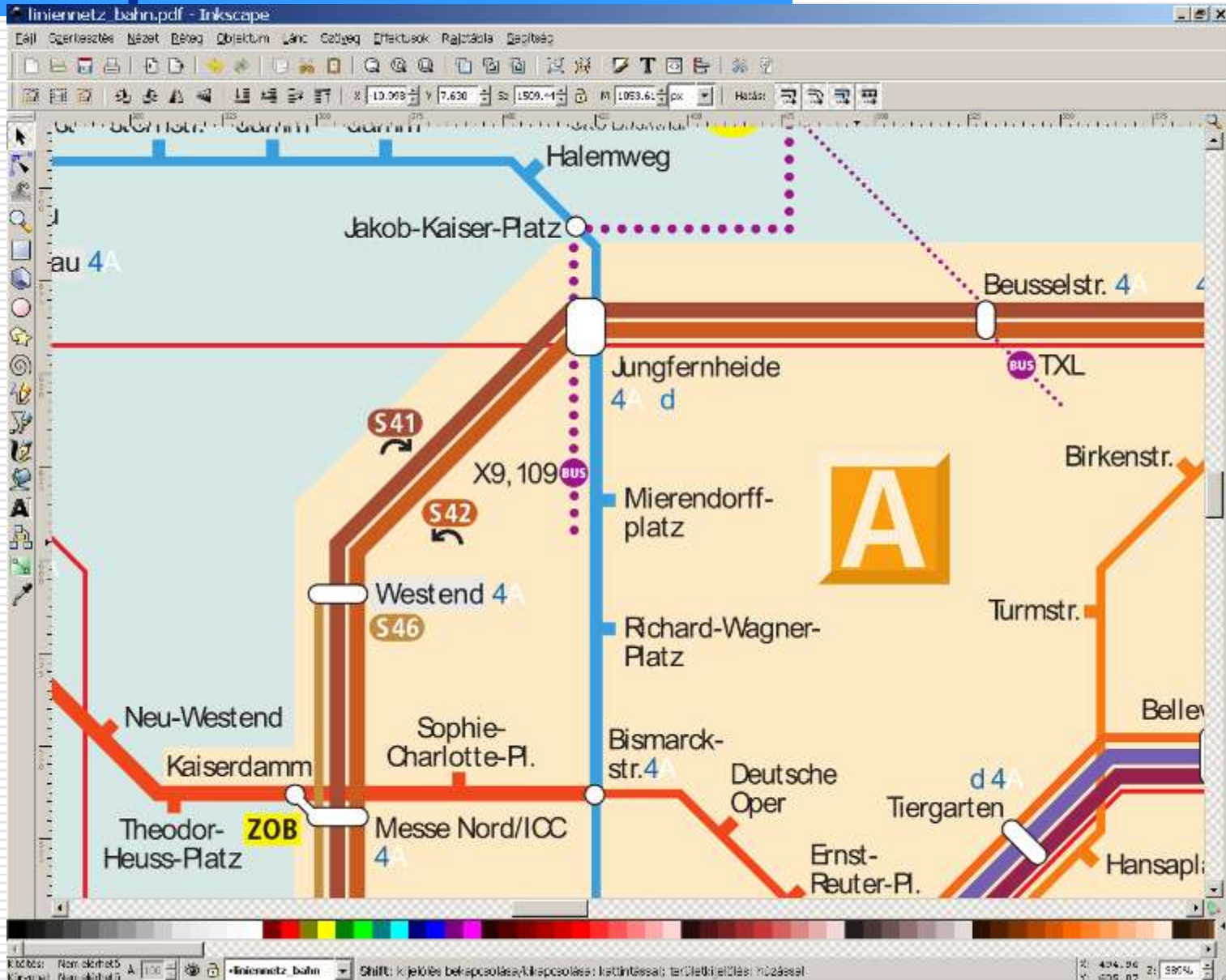
Advantages:

- ❖ Free and open source
- ❖ The primary native format is SVG
- ❖ Multi-lingual support, particularly for complex scripts

Disadvantages:

- ❖ No stable version yet
- ❖ Unix version has more functions than the Windows and Mac version
- ❖ Color separation is not yet implemented

Inkscape



Xara Designer Pro

Advantages:

- ❖ Very fast rendering
- ❖ Fully antialiased display
- ❖ CorelDraw-like interface
- ❖ It has a free, open source version (Unix)

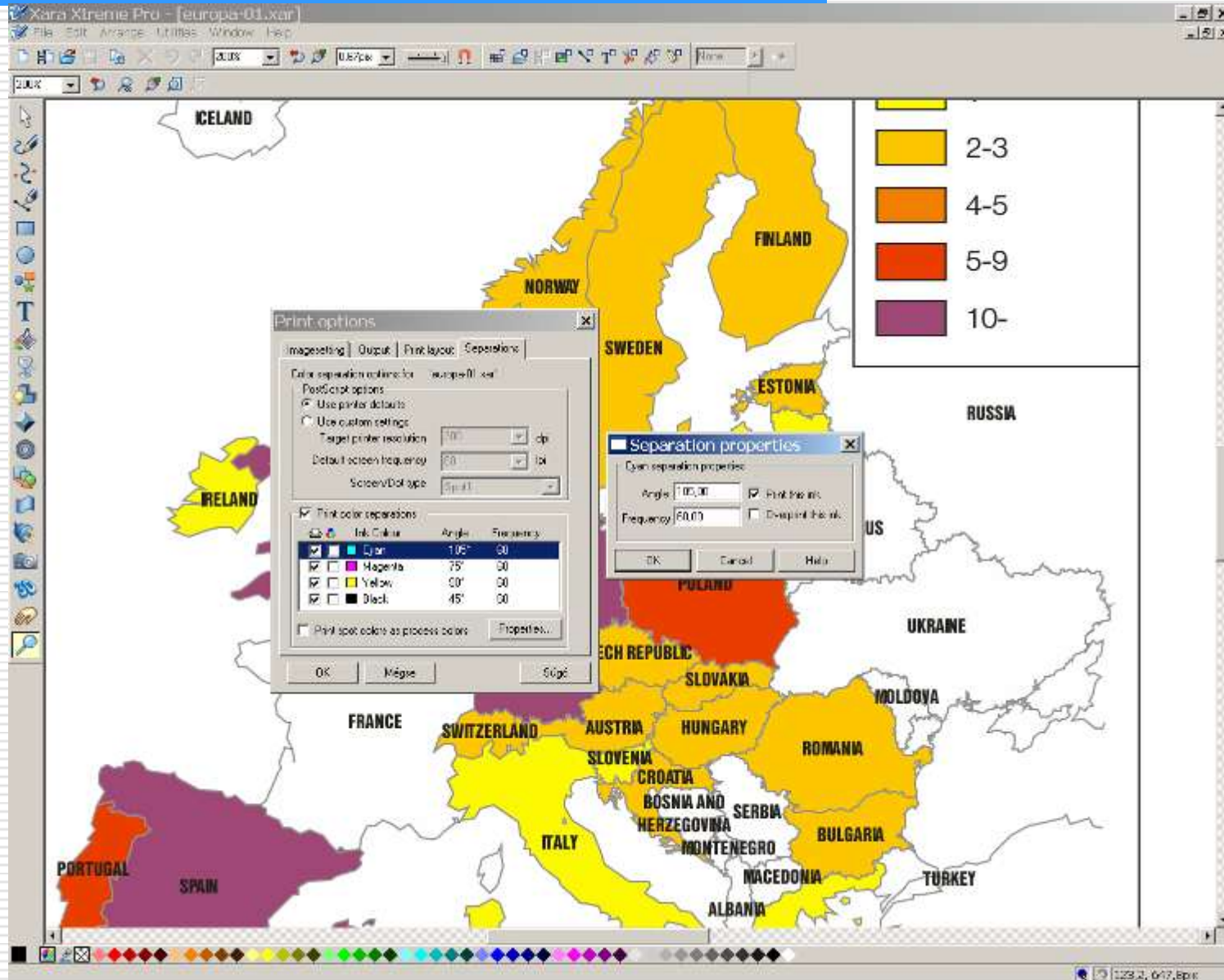
Disadvantages:

- ❖ The first version was originally developed by Microsoft
- ❖ Optimized for web graphics

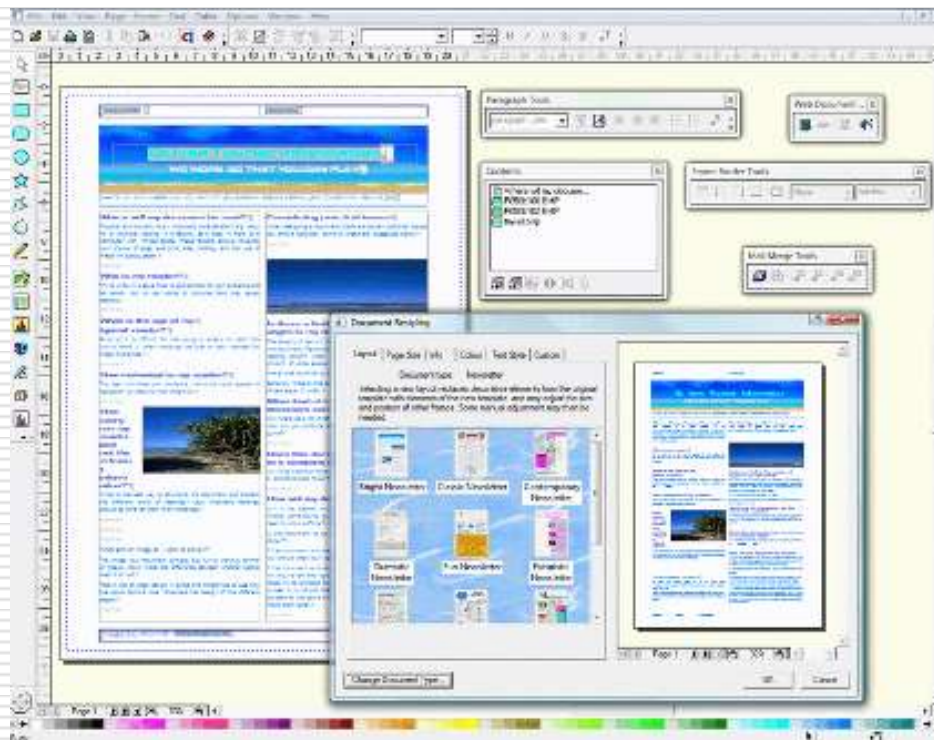
Xara Designer Pro



Xara Designer Pro - color separation



DTP software

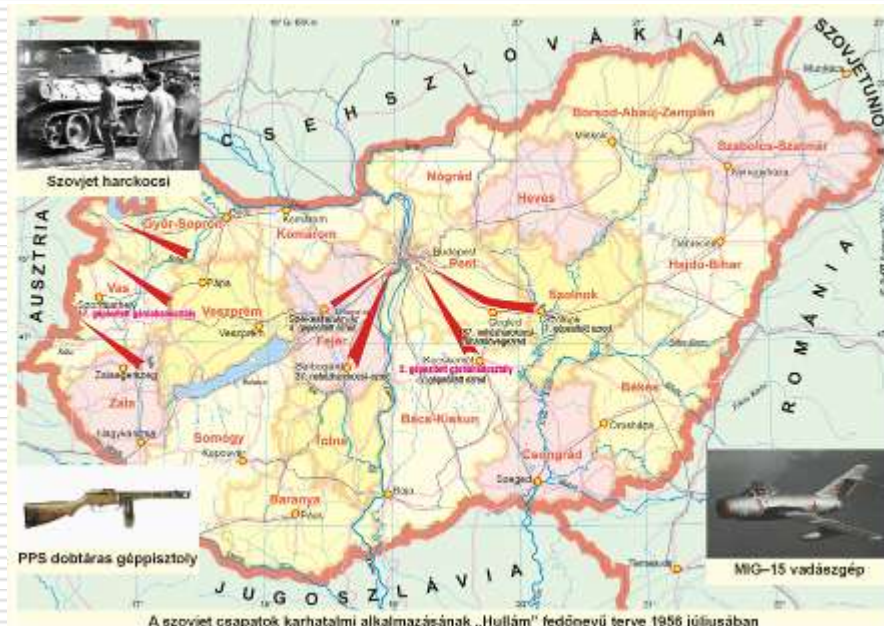


DTP software

- ❖ Desktop publishing (DTP) combines a personal computer and WYSIWYG page layout software to create publication documents on a computer for either large scale publishing or small scale local multifunction peripheral output and distribution.
- ❖ The term „desktop publishing” is commonly used to describe page layout skills. However, the skills and software are not limited to paper and book publishing.
- ❖ While desktop publishing software still provides extensive features necessary for print publishing, modern word processors now have publishing capabilities beyond those of many older DTP applications, blurring the line between word processing and desktop publishing.

DTP and map production

- ❖ The map production sometimes similar to desktop publishing (photos, tables, index etc.).
- ❖ DTP has no connection to cartography, GIS and databases, but if we have to concentrate on the enhanced map layout DTP is the suitable solution.
- ❖ DTP is also a best solution to manage the colour separation (process, spot and mixed) and all other publishing issues.



DTP software - history

- ❖ 1980: LaTeX, desktop typesetting, with limited page makeup facilities
- ❖ 1985: MacPublisher, the first WYSIWYG layout program. Introduction of the Apple LaserWriter printer, and PageMaker software from Aldus which rapidly became the DTP industry standard software.
- ❖ 1986: GEM-based Ventura Publisher (suitable for manuals and other long-format document)
- ❖ 1987: the first version of Quark XPress (Mac)
- ❖ 1992: the first PC version of Quark XPress
- ❖ 1993: Corel acquired Ventura
- ❖ 1994: Adobe acquired PageMaker (ceased in 2004)
- ❖ 1999: the first version of InDesign
- ❖ 2006: Free Quark XPress version 5 in UK
- ❖ 2009: Adobe FrameMaker - no more versions other than Windows



DTP software - market

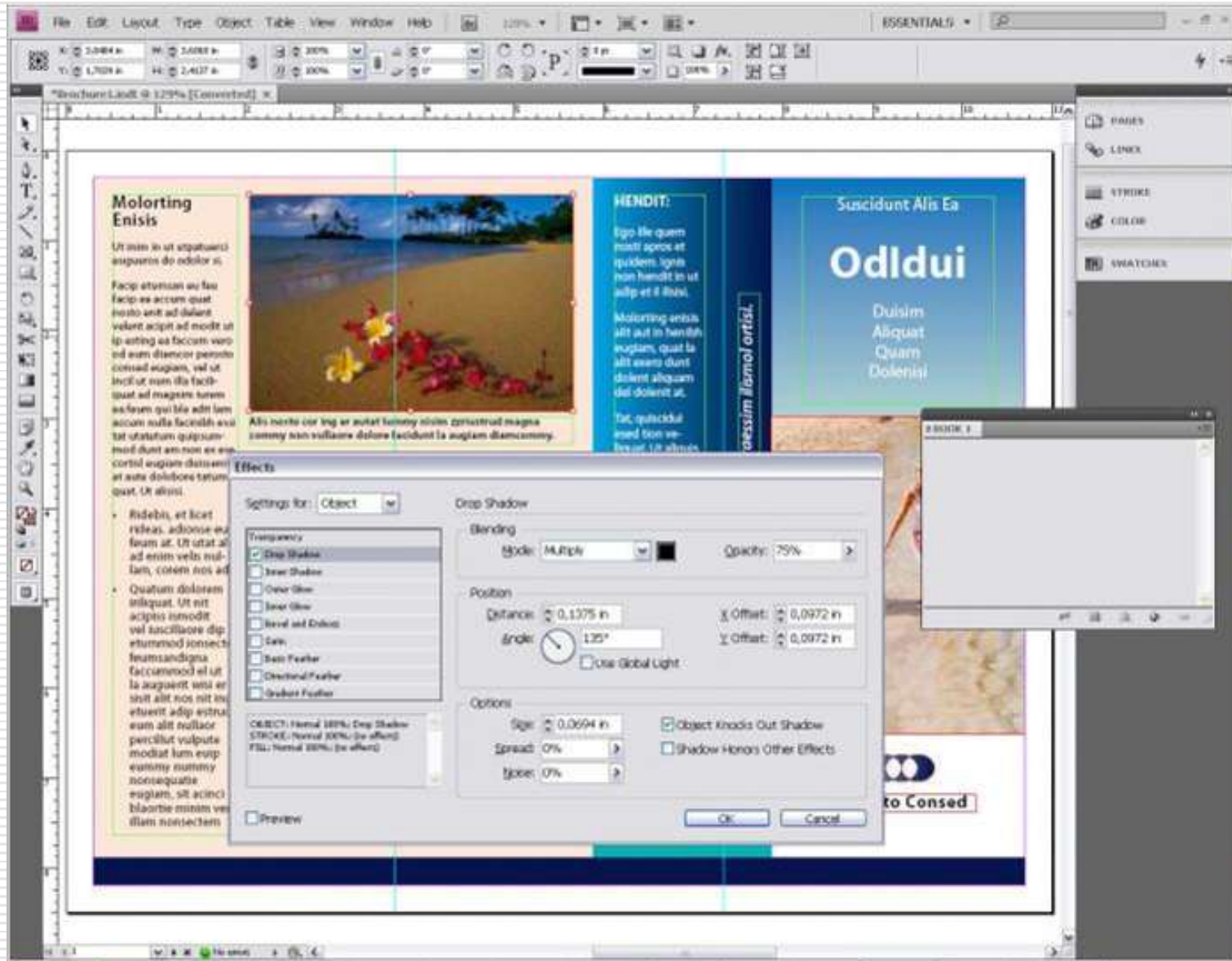
- ❖ Adobe InDesign CS5
- ❖ Corel Ventura 10
- ❖ Quark XPress 8

- ❖ *Corel Draw X5*
- ❖ *Adobe FrameMaker 9*

Adobe InDesign

- ❖ The first release of InDesign, in 1999, many were disappointed by its lack of some PageMaker features. InDesign did have features, such as a frame-based approach to page layout, a Bézier tool, and gradient fills, that PageMaker lacked.
- ❖ InDesign 2.0 introduced XML support, OpenType support, long document support, tables, and transparency controls.
- ❖ InDesign CS (2003) new features include enhanced PSD support, nested styles, improved XML import/export, and document presets.
- ❖ InDesign CS2 Server was released in 2005. InDesign Server is a modified version of InDesign that is used on servers to create client-server solutions that use the InDesign plugin technology.
- ❖ InDesign CS4 (2008), CS5 (2010)
- ❖ MiddleEast version fully support bi-directional text flow.

Adobe InDesign



Adobe InDesign - color separation

The screenshot displays the Adobe InDesign CS2 interface with the Print dialog box open. The Print dialog is configured for a custom print job on an AGFA-SelectSet Avantra 44 printer. The output is set to 'Separations' with a frequency of 100 and an angle of 15 degrees. The Ink Manager window is also open, showing a list of inks with Process Cyan selected.

Ink	Frequency	Angle
Process Cyan	100	15
Process Magenta	100	75
Process Yellow	100	0
Process Black	100	45

Ink	Type	Density	Sequence
Process Cyan	Normal	0.61	1
Process Magenta	Normal	0.26	2
Process Yellow	Normal	0.38	3
Process Black	Normal	1.0	4

Ink Manager settings for Process Cyan:

- Type: Normal
- Neutral Density: Normal
- Trapping Sequence: Opaque
- Ink Attributes: Opaque/Ignore



Corel Ventura

- ❖ Ventura Publisher, while it has some text editing and line drawing capabilities of its own, was designed to interface with a wide variety of word processing and graphics programs, rather than supplant them. This allows users to continue using their favourite word processors for major text changes, spelling checks, and so forth.
- ❖ The major strengths of Ventura Publisher, at least in its original DOS/GEM edition, are its ability to run on a wide range of hardware, its ability to produce documents with a high degree of internal consistency.
- ❖ After the software was acquired by Corel in 1993, the development was relatively slow, the latest version is Corel Ventura 10 - it's not a key product for Corel at all (CorelDraw itself can partly manage DTP jobs).
- ❖ No special support for Middle Eastern languages.

Corel Ventura

Corel VENTURA 8 - [2info_01-2.vp]

File Edit View Insert Publication Page Format Table Tools Window Help

Default Frame arch_bau_negativ Text through Frame (None) x112,79 y10,60 +89,00 +43,00 0,0

48%

Tag Window - [2info_01-2.vp]

Name	Outside Text Flow	Captions	X	Y	Width
Default Frame	Text through Frame	(None)	0,00 mm	0,00 mm	39,96 mm
journal	Text through Frame	(None)	85,00 mm	0,00 mm	45,00 mm
journal_footer	Text through Frame	(None)	0,00 mm	281,00 ...	185,00 ...
L_46-5	Text through Frame	(None)	0,00 mm	0,00 mm	39,50 mm
L_48-5	Straddle Text	(None)	0,00 mm	0,00 mm	0,00 mm
L_52-5	Text through Frame	(None)	0,00 mm	0,00 mm	39,80 mm

VENTURA Navigator 1

Publication Manager

- 2info_01-2
 - 2info
 - 2info_intro
 - 2toc
 - 2toc
 - architektur_ver-rueckt
 - brandschutz-praxis
 - energieeinsparverordnung
 - enev-plus
 - preface
 - Sgl-96-1
 - signature_cmyk
 - 2info_main
 - 2journal
 - 2index
 - 2info_order
 - 2back
 - 3info_02
 - 3info
 - 3info_intro
 - 3info_toc
 - 3main

Unser Tipp

www.bauer-leverlag.de

Page 1 (4) R Frame: arch_bau_negativ W: 8,900 cm, H: 4,300 cm

Start Explorer - WK7-600\g Corel VENTURA 8 - [2info_01... Corel PHOTO-PAINT 8 - [ventu... 16:08

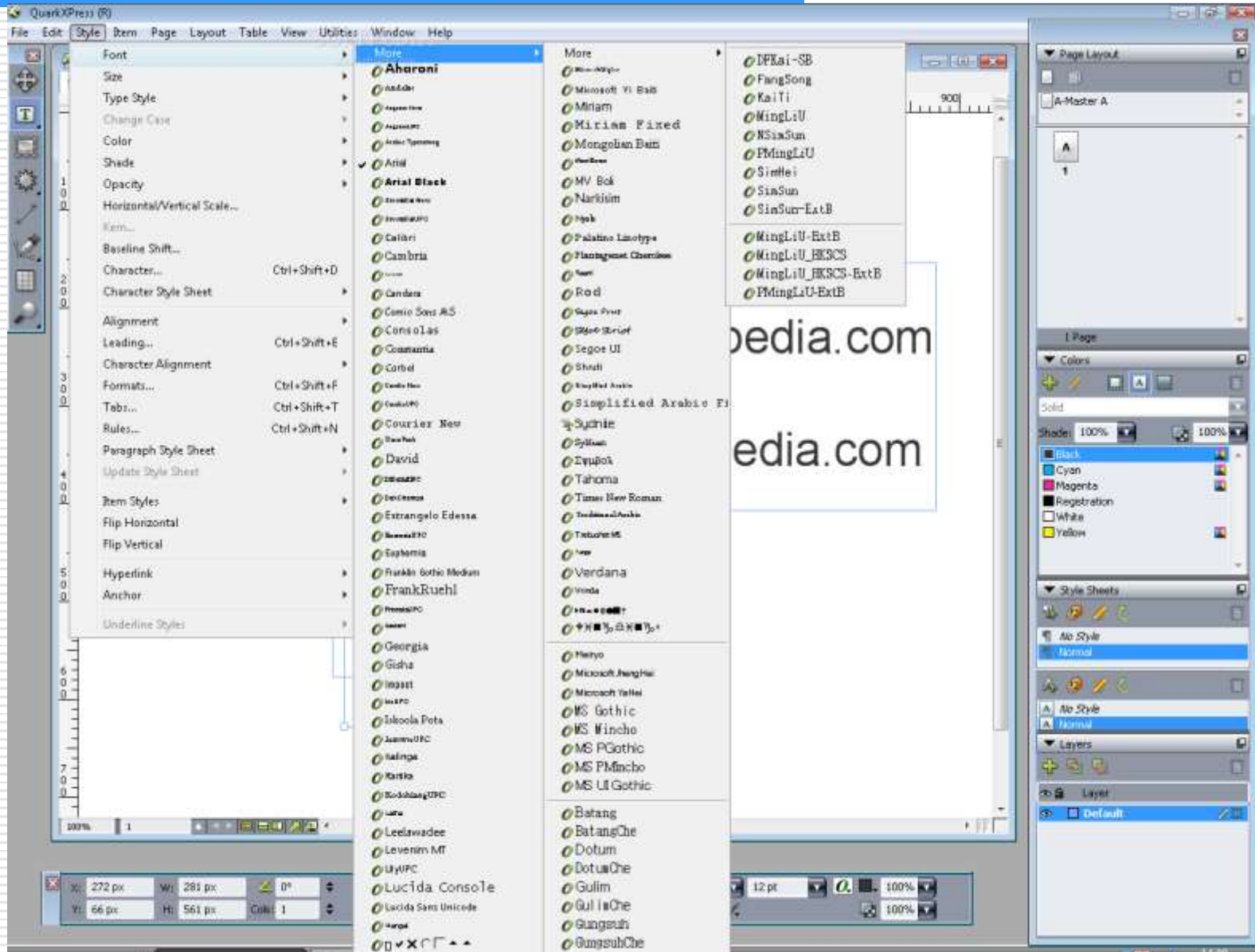


Quark XPress

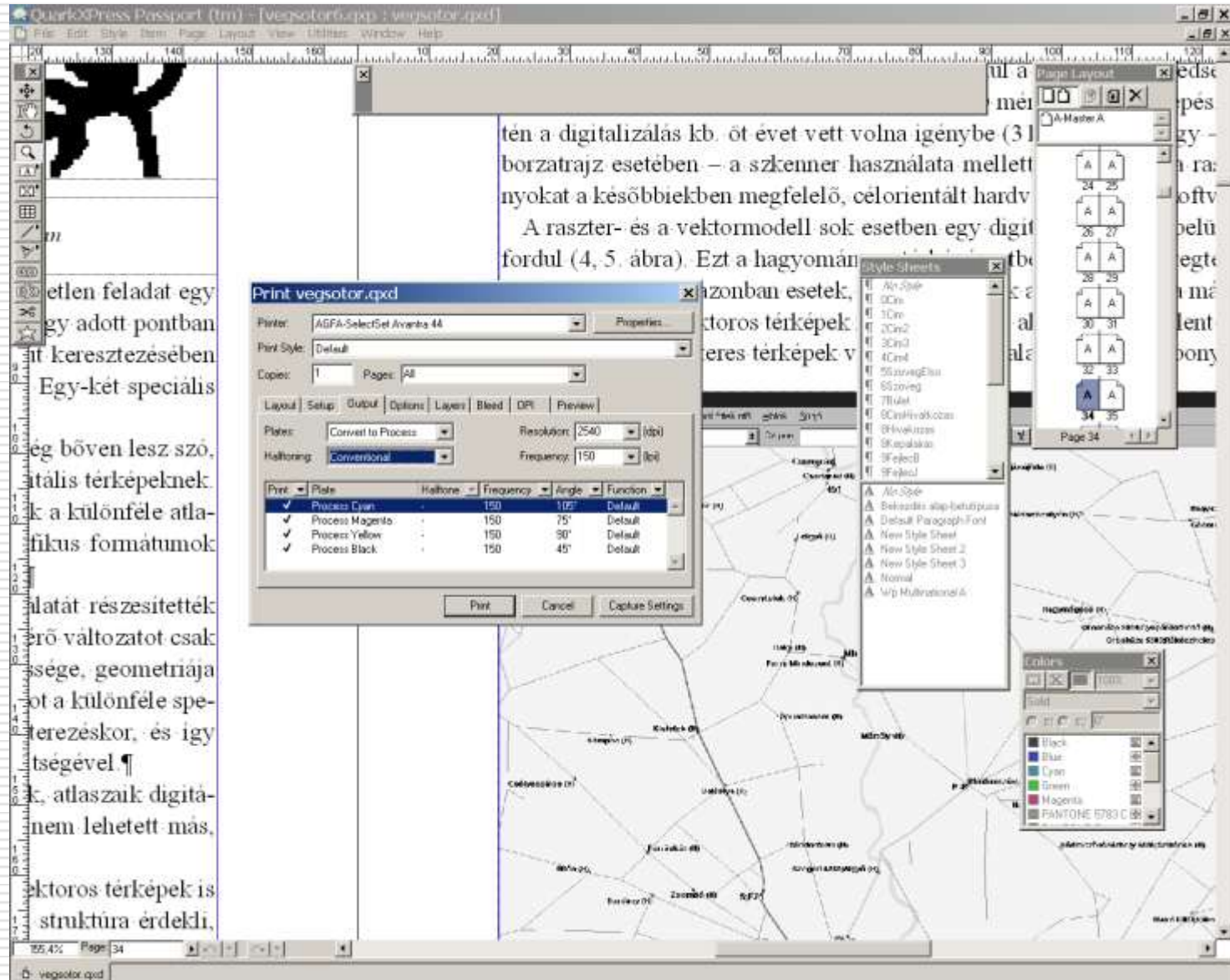
- ❖ The first version of QuarkXPress was released in 1987 for the Macintosh. A Microsoft Windows version followed in 1992. In the 1990s, QuarkXPress quickly became widely used by professional page designers, the typesetting industry and printers.
- ❖ Quark XPress version of 3.3 (1996) was seen as stable and trouble-free, working seamlessly with Adobe's Postscript fonts as well as with Apple's TrueType fonts.
- ❖ Having gained a marketshare of approximately 90% in the 1990s, Quark was criticized for having overly long innovation cycles and being too expensive, which encouraged Adobe to launch Adobe InDesign in 1999.
- ❖ QuarkXPress 8 (2008) includes built-in Flash authoring enabling designers to not only create content for print but also for Web and Flash including sound, video, animation and interactivity. The unique part being that unlike Adobe Flash, designers can do this without the need to learn to program
- ❖ With extensions non Latinic scripts can be supported.



Quark XPress



Quark XPress - color separation



Adobe FrameMaker

- ❖ The original company's attempt to sell sophisticated technical publishing software to the home DTP market was not successful. A tool designed for a 1000-page manual was too cumbersome and difficult for an average home user to type a one-page letter.
- ❖ Despite some initially enthusiastic users, FrameMaker never really took off in the academic market, because of the company's unwillingness to incorporate various functions (such as support of endnotes or of long footnotes split across pages), or to improve the equation editor.
- ❖ After Adobe acquired the product in 1995 it has returned the focus to the professional market. Today, Adobe FrameMaker is still a widely-used publication tool for technical writers (complex technical documentation).
- ❖ The latest version is ver. 9.



Adobe FrameMaker

FY 1999—Completed Reviews

In FY 1999, we conducted performance reviews to determine the reliability of the data used to measure the following:

SSA performance indicators and goals for SSA's FY 2000 Annual Performance Plan:

Strategic Goal—To deliver customer-responsive, world-class service	Objective—By 2002, to have 9 out of 10 customer rate SSA's service as good, very good, or excellent, with most rating it excellent
The Business Indicators	FY 2000 Goals
Percent of SSA's core business customers rating SSA's overall service as excellent, very good, or good	88
Percent of SSA's core business customers rating SSA's overall service as excellent	37
Percent of SSA's core business customers rating the clarity of SSA's notices as excellent, very good, or good	82

Objective—To raise the number of customers who receive service and payments on time

Performance Indicators	FY 2000 Goals
Percent of original and replacement Social Security number (SSN) cards issued within 5 days of receiving all necessary information	97

FY 2000—Completed Reviews

In FY 2000, we completed a survey of the data source SSA uses to produce its performance data and a review of the FY 2000 Annual Performance Plan. We also completed performance measure reviews to determine the reliability of the data used to measure the following SSA performance indicators and goals from SSA's FY 2000 and Revised Final FY 2000 Annual Performance Plan:

Strategic Goal—To deliver customer-responsive, world-class service	Objective—To maintain the individual's earnings record
Output Measure for Major Budgeted Workload	The Business Indicators
Retirement/Survivor Insurance Claims processed	1,313,800
Supplemental Security Income (SSI) aged claims processed	144,200
SSI requests processed	14,300,000

Character Designer

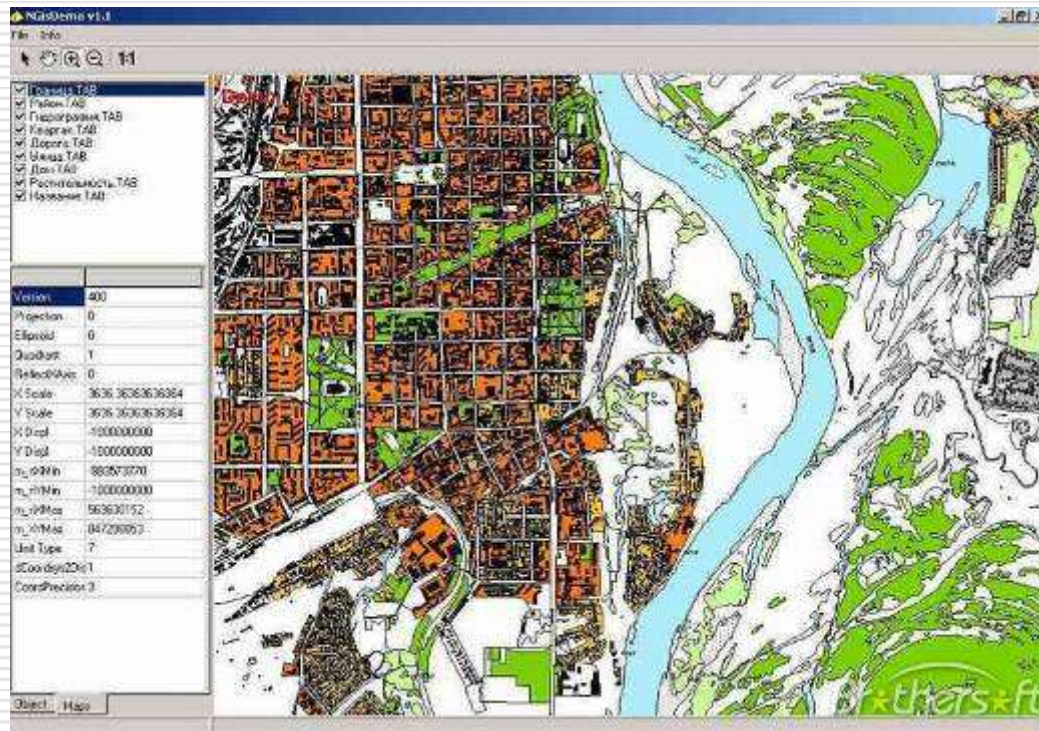
Character Tag: Emphasis
Family: Myriad Roman
Size: 18.0 pt
Angle: Regular
Weight: Bold
Variation: Regular
Color: Black
Spread: 0.0%
Stretch: 100.0%
Language: US English

Character List

- Body
- Body-Large opening
- Body-FL
- Body-Indented
- Body-small Myriad
- Bulleted
- Caption
- FOUO-top RT
- Footnote Text
- Head-Bergell 40
- Head-Chap
- Head-Myriad24
- Indented
- Numbered List
- PutQuote LEFT
- PutQuote RIGHT
- Subhead 1
- Subhead 2
- Subhead 3



Cartographic software

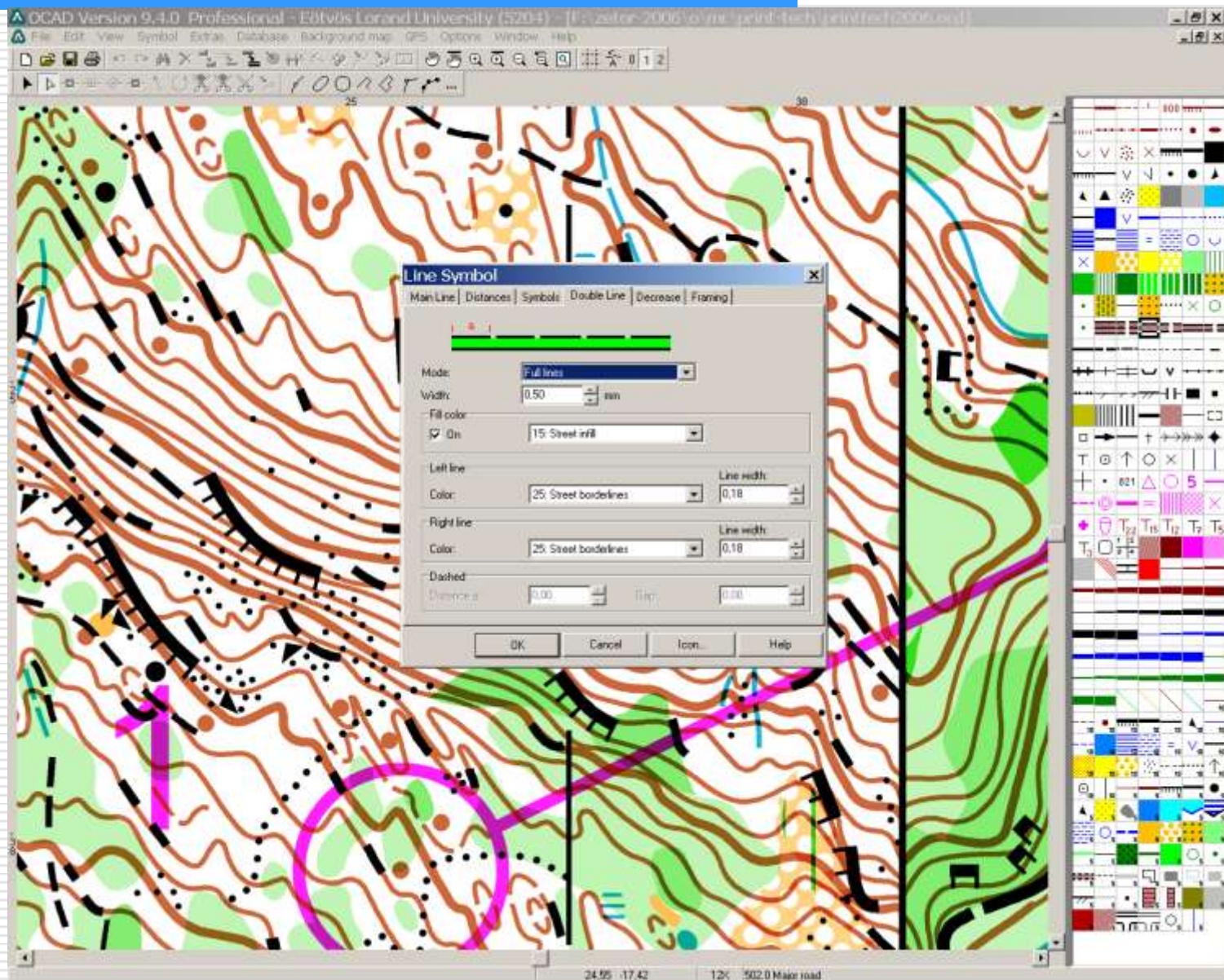


Cartographic software

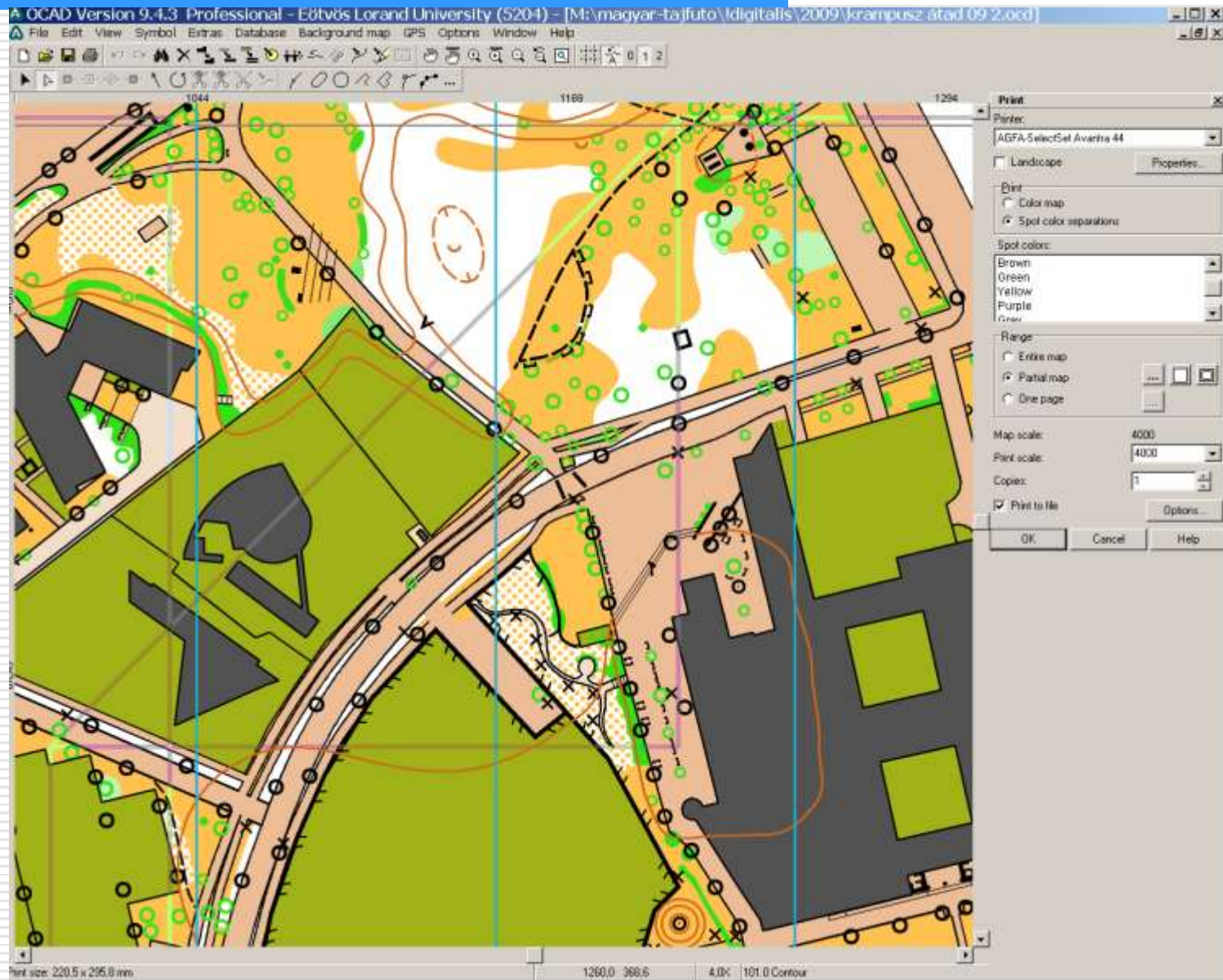
- ❖ Due to the small market these software are mostly specialised (only few types of maps are supported) or very expensive and complicated and used only by large mapping companies and national agencies.
- ❖ Only few of them are able to cover the whole process of map producing.
- ❖ Some software concentrate on special cartographic procedures or special types of maps.
- ❖ These are not GIS based software, they are focusing on map production.
- ❖ Based on map production techniques: objects - map symbols, map printing (scale changes)

- ❖ The first version was released in 1990 for drawing orienteering maps (Switzerland).
- ❖ Small (smart) software, very user-friendly, based on the map production process: but OCAD was mostly a map drawing software.
- ❖ Version 5 was the first Windows version (both digitizing tablet and scanning input supported).
- ❖ Version 6 (full) now is available as freeware. This was the first version where your map symbols can be created.
- ❖ Professional version has GPS and GIS connection. For simple map drawing and production the standard version is appropriate.
- ❖ OCAD 10 (the latest version) is available in English, Finnish, French, German, Italian, Japanese, Norwegian, Portuguese, Spanish and Swedish.
- ❖ Used in more than 60 countries.

OCAD

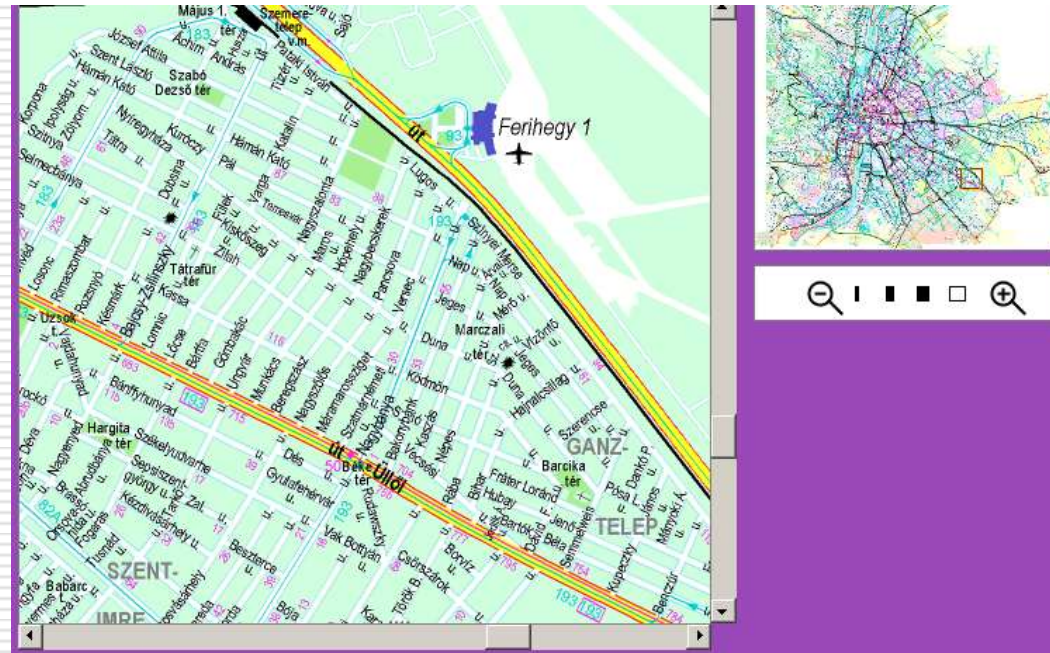


OCAD color separation



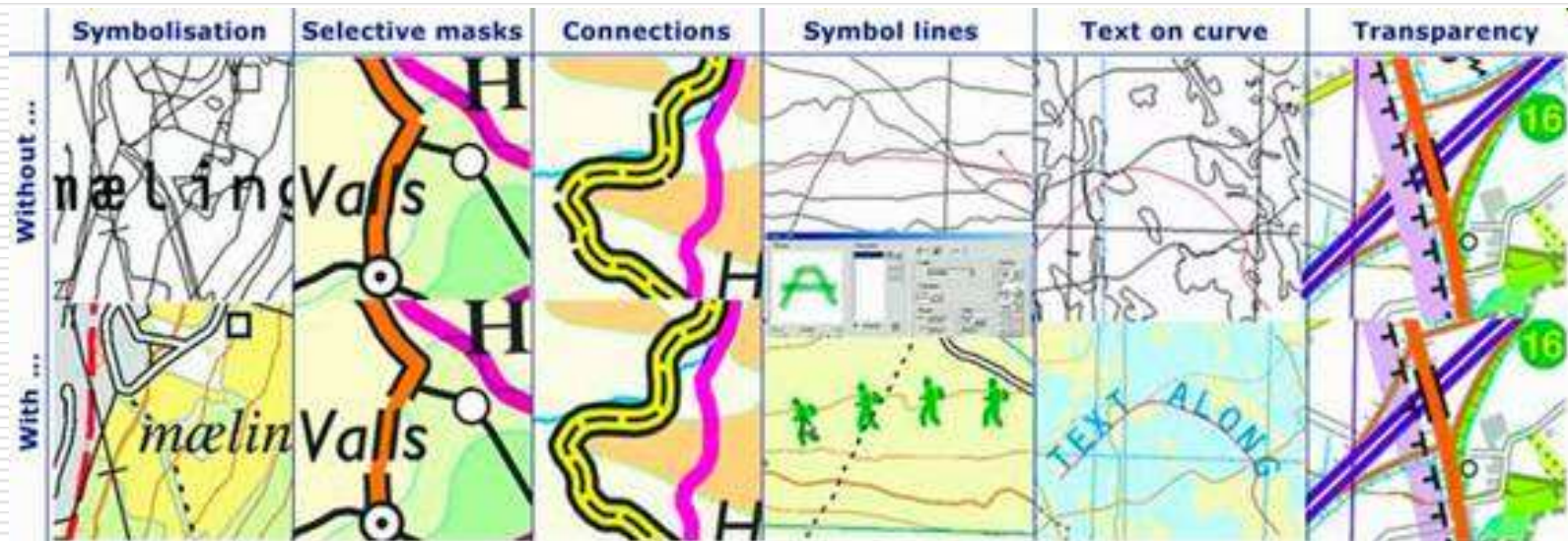
OCAD features

- ❖ The key philosophy of OCAD is to be as simple as it is possible.
- ❖ Advanced symbol editing tools.
- ❖ On-screen overprint.
- ❖ No advanced prepress functions, only the basic colour separation (for advanced users a DTP software is necessary).
- ❖ Easy web map production.



Star-Apic Mercator

- ❖ 15 years experience
- ❖ References: IGN Belgique, IGN France, Ordnance Survey UK, National Land Survey of Sweden, National Survey and Cadaster Denmark, Bundesamt für Landestopographie, Survey of India, Michelin, Rand McNally, CartoTravel Verlag, Roskart (RU).
- ❖ The Mercator technology is based on a mixture of:
 - Prepress knowledge (Esko)
 - Database knowledge (Oracle)
 - GIS knowledge



Star-Apic Mercator

MERCATOR is available in 3 versions :

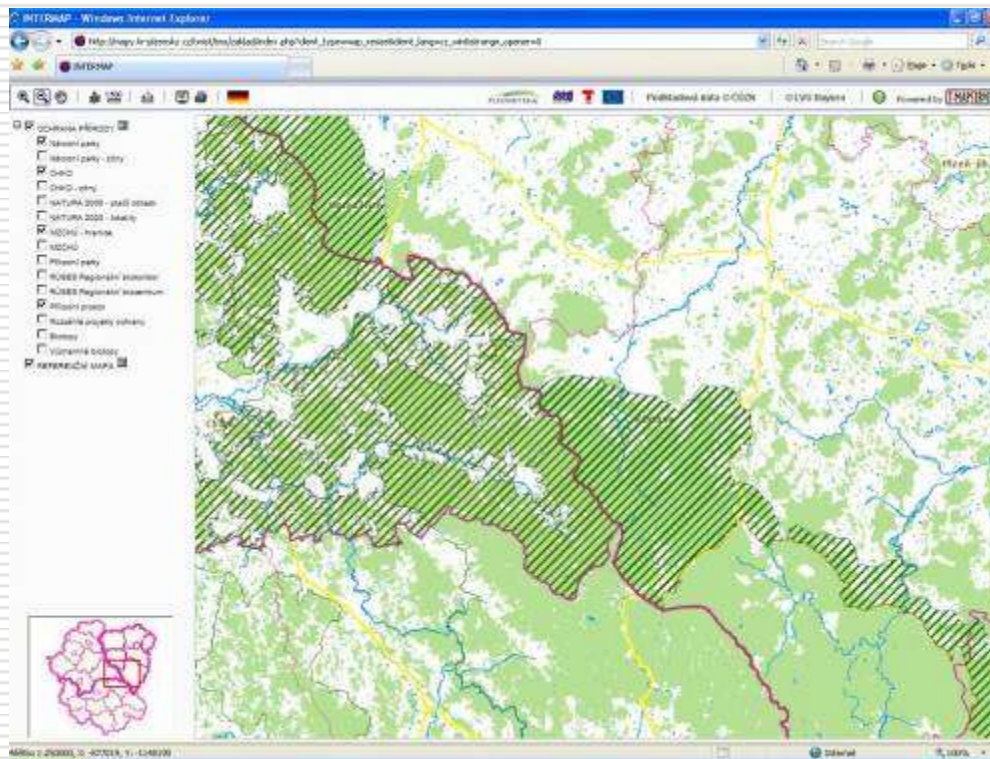
- ❖ MercatorPublish : The basis for all cartographic publishing.
- ❖ MercatorPrepress : Extended version to prepare complete cartographic documents for offset printing.
- ❖ MercatorServer : workflow software for fully automated map production.

Star-Apic Mercator

- ❖ Ink based
 - CMYK + Spot colours (Pantones) + designer inks
 - Full transparency support
 - 100% WYSIWYG
 - Mixing of different screenings to improve printing quality
- ❖ Complex line, area, point and text styles
 - Consistent line dashing
 - Use of self-defined symbols
 - Support for Unicode and Adobe Type 1 and OpenType fonts
- ❖ True prepress workflow software
 - Predefine whole workflows from GIS to sending PDF to printer
 - Elaborate quality control mechanism

T-Kartor

- ❖ Swedish firm, with affiliates in Norway, Finland, Czech Republic and USA.
- ❖ CPSNG (Cartographic Production System, Next Generation) is the solution for cartographic production (T-Mapy).
- ❖ Advanced webmapping features.



T-Kartor

Cartographic production

- ❖ The company is specialised in designing and maintaining geographic datasets used for cartographic and other location-based application work.

Cartographic software development

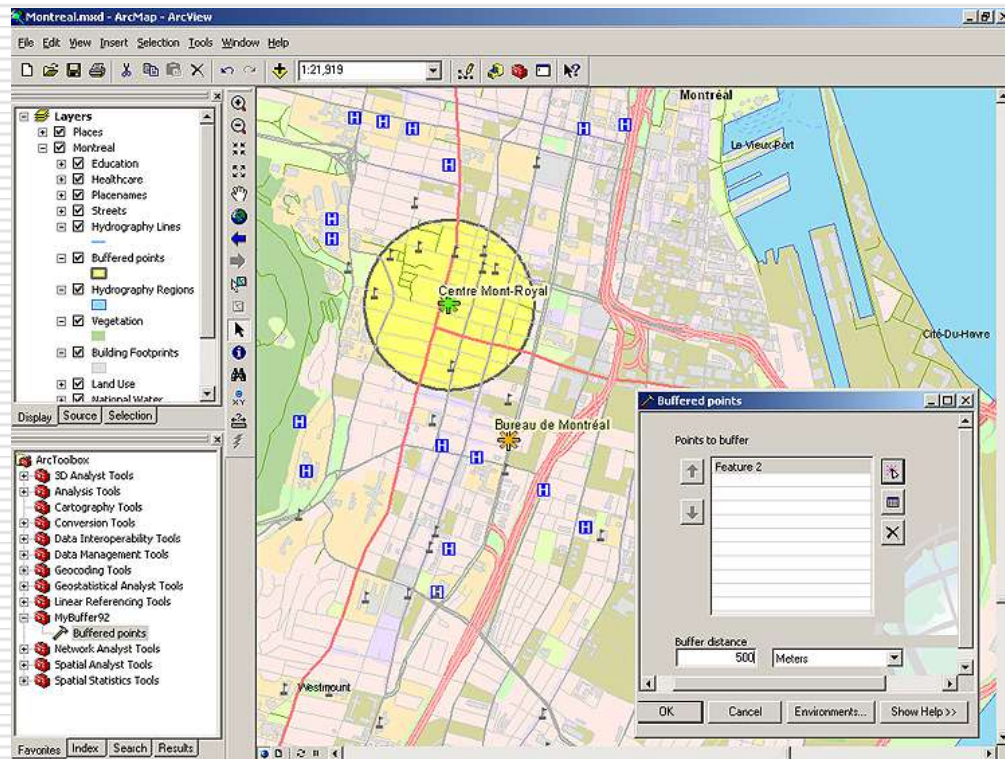
- ❖ The company invested many years improving their own map and data production methods. They optimized the use of state-of-the-art database technology, while maintaining the highest standards of cartographic quality. Based on that experience, the company assists other organizations to improve their in-house production methods, workflows and quality management framework.



Lorienne - LorikSoftware

- ❖ French software company
- ❖ They cover all issues faced by the map industry:
 - production of cartographic databases
 - cost effective publication of GIS data
 - automatic web mapping production
 - revival of traditional cartographic assets (printing films update)
- ❖ Modules
 - ❖ LorikCartographer, LorikGISMapper, LorikPublisher, LorikGISPublisher, LorikDigital, LorikGISDigital
- ❖ References: Morocco - National Agency of Cadastre Land conservation and Cartography, A-Z Map Company Ltd. (UK)

GIS software



GIS software

GIS is a subset of information science that deals with spatially or geographically referenced data.

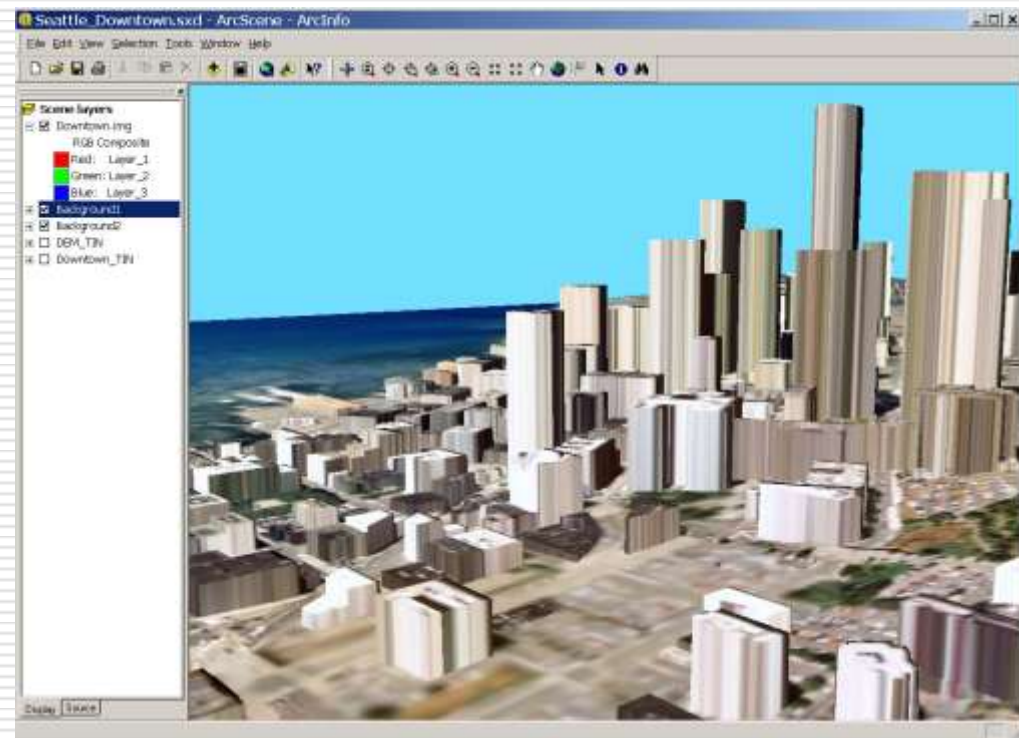
It is a collection of hardware, software, methods, and instructions, to

- ❖ capture,
- ❖ manage,
- ❖ manipulate,
- ❖ analyze,
- ❖ display our data

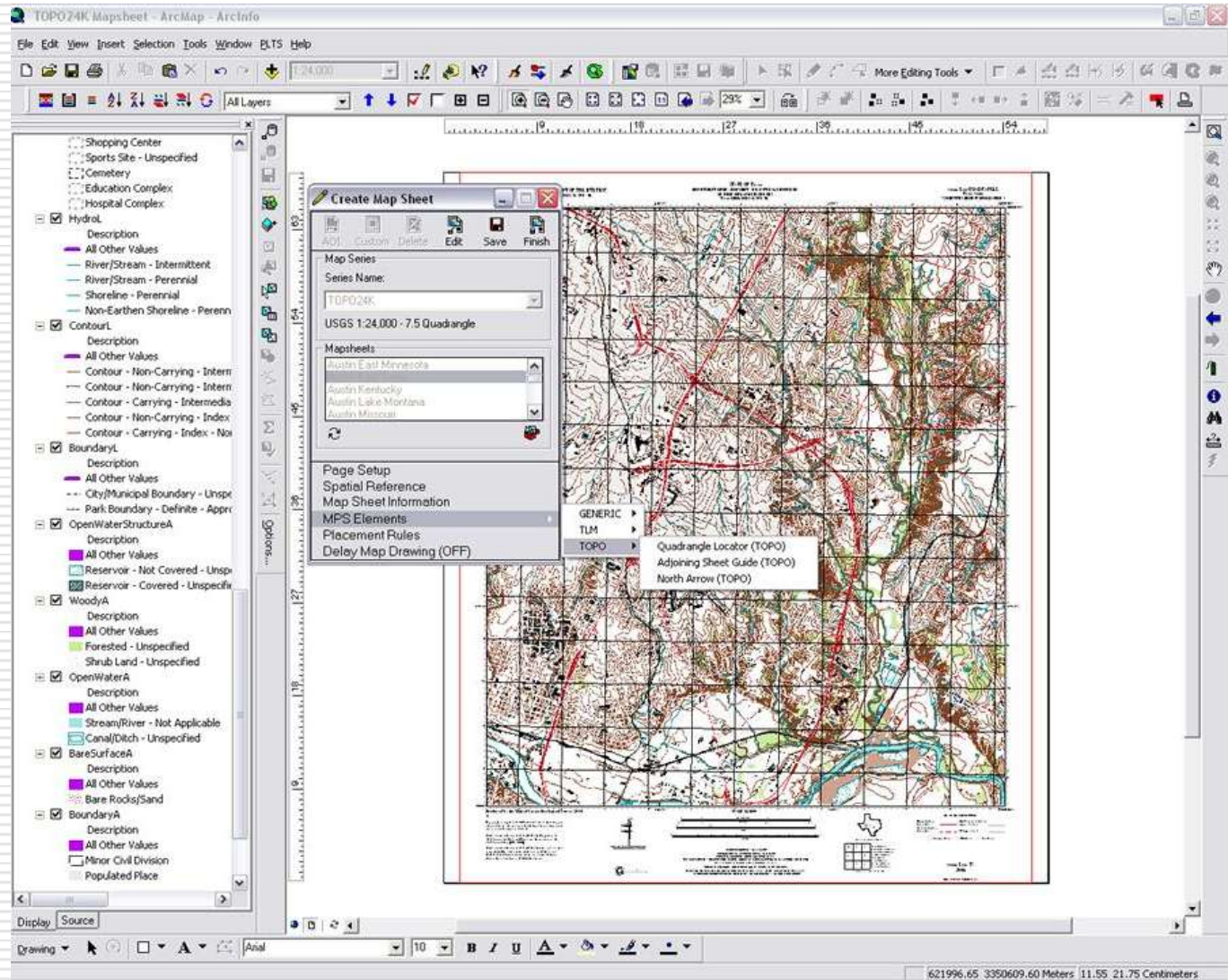
Offset map production is not a primary aim of GIS software.

ESRI Arc GIS

- ❖ The World's most popular GIS application.
- ❖ The ArcInfo level allows users the most flexibility and control in all aspects of data building, modelling, analysis, and map display.
- ❖ Extensions may give more productivity and flexibility.



ESRI Arc GIS - Map Production System-Atlas



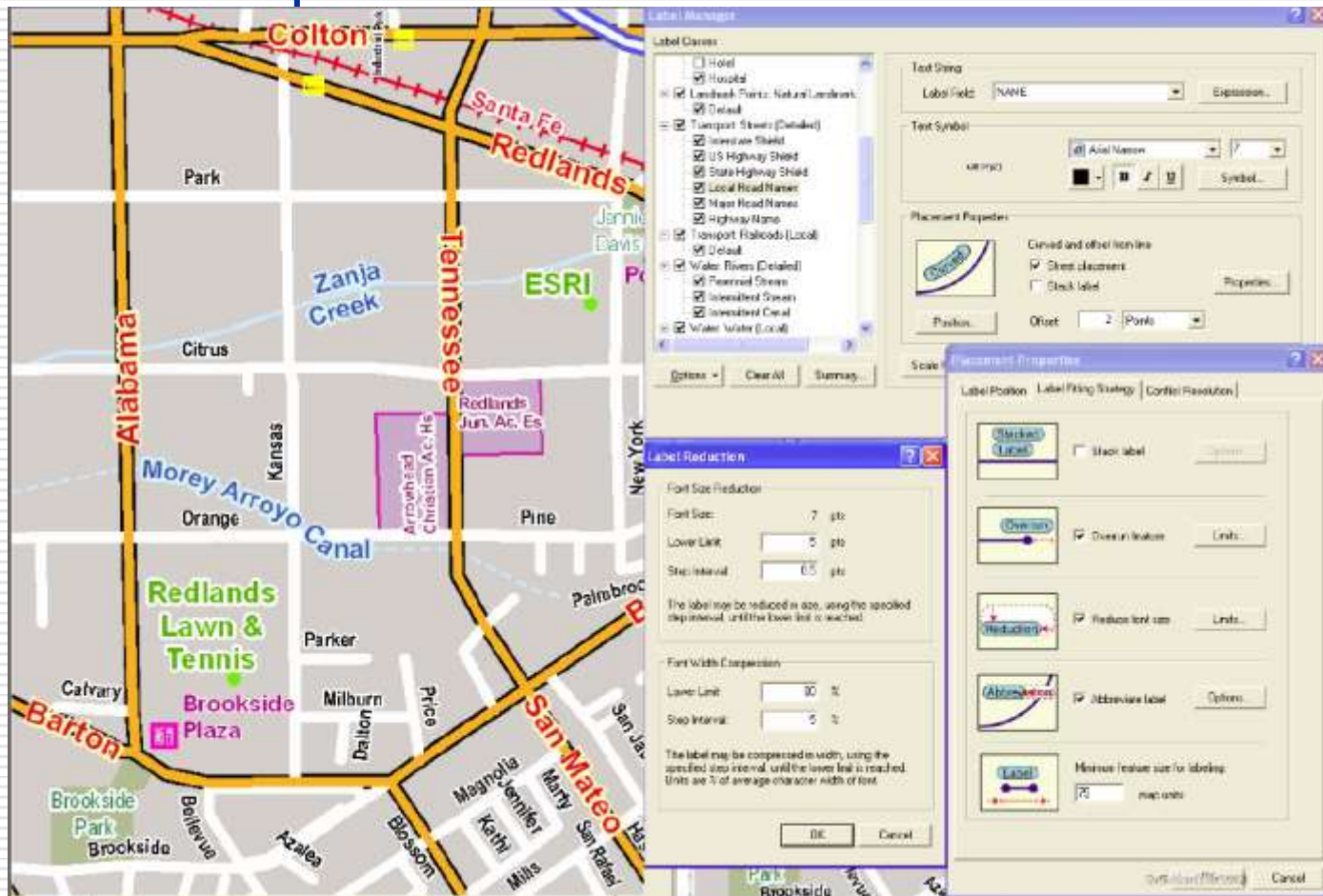
ESRI Arc GIS - Map Production

System-Atlas

- Create multiple maps from a single map document.
- Customize map sheets within a single map document.
- Define map series templates from existing map documents.
- Use element rules to define placement for all map elements.
- Make cartographic rendering repeatable and distributable with visual specification tools.
- Create high-quality cartographic products with enhanced production and editing tools.
- Add and modify dynamic elements in map sheets.
- Batch exporting and printing of map sheets.

ESRI Arc GIS - extensions

- ❑ Maplex for ArcGIS is an automated high-quality cartographic text placement and labeling extension for ArcGIS Desktop.



Decision making (alternatives)



Factors

- Does your activities are fully based on using GIS?
 - Use ArcGIS
- Do you want to offer on-line map services?
 - Use map server application (GIS based)
- Is map publishing our main activity?
 - You may use mixed system:
 - GIS
 - Cartographic software
 - General graphic software
 - You have to be familiar with DTP and prepress!

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