



Colour quality control – The Finnish example

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Ifra NewsFloor event, 11.10.2004

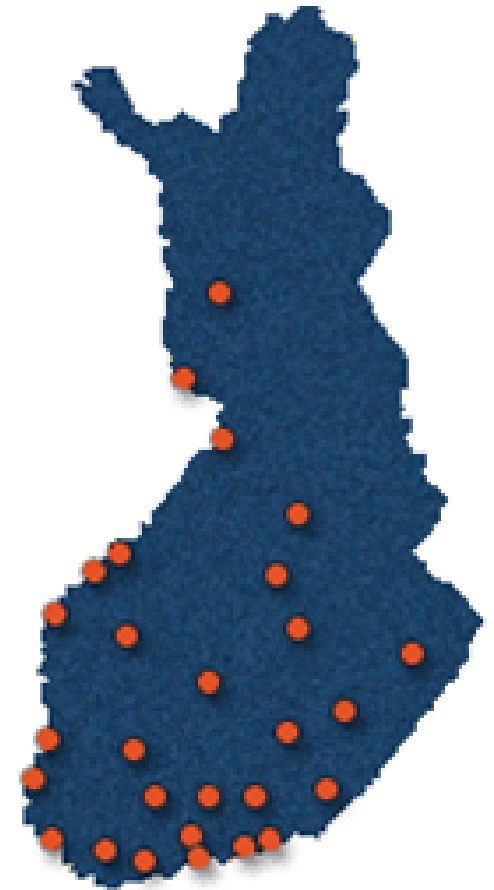


GO FOR IT - SpectroColor
keeps the colour quality



Kärkimedia newspapers- circulation and readership

Newspaper	Circulation	Readers	Newspaper	Circulation	Readers
Helsingin Sanomat	441 325	1 110 000	Hämeen Sanomat,	30 343	76 000
Aamulehti	136 028	329 000	Kouvolan Sanomat	29 409	76 000
Turun Sanomat	112 567	282 000	Keskipohjanmaa	27 840	84 000
Kaleva	82 566	221 000	Kymen Sanomat	26 311	70 000
Keskisuomalainen	76 818	188 000	Länsi-Savo	26 126	67 000
Savon Sanomat	66 250	179 000	Vasabladet	26 084	64 000
Etelä-Suomen Sanomat	62 155	145 000	Kainuun Sanomat	23 024	65 000
Satakunnan Kansa	55 904	147 000	Pohjolan Sanomat	22 661	65 000
Ilkka	55 734	147 000	Salon Seudun Sanomat	21 739	57 000
Hufvudstadsbladet	51 203	121 000	Itä-Savo	19 603	52 000
Karjalainen	47 764	127 000	Länsi-Suomi	16 903	46 000
Keski-Uusimaa	44 701	121 000	Iisalmen Sanomat	14 927	42 000
Lapin Kansa	34 924	96 000	Länsi-Uusimaa	13 139	37 000
Etelä-Saimaa	33 998	88 000	Uusimaa	13 128	39 000
Pohjalainen	32 975	107 000	Jakobstads Tidning	12 447	34 000



Why Kärkimedia has developed the SpectroColor system ?

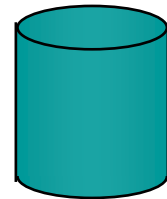
- Advertisers expect same print results regardless of the printing place
- Brand advertising is becoming more important
- The printers own quality project resulted only 10 % improvement in the uniformity
- ICC-based workflows requires process standardisation

SpectroColor- system achitecture

**Printer
measuring
&reporting
software**

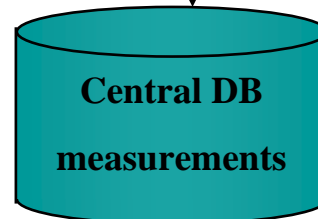


local DB



ODBC

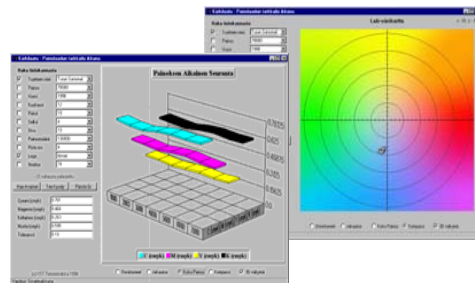
Server



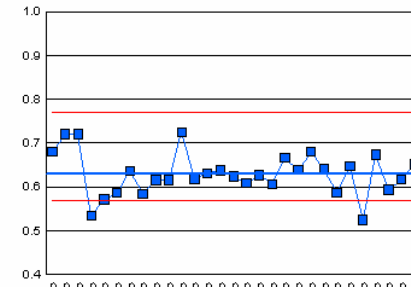
Central DB
measurements

**Client
automatic reports**

JDBC

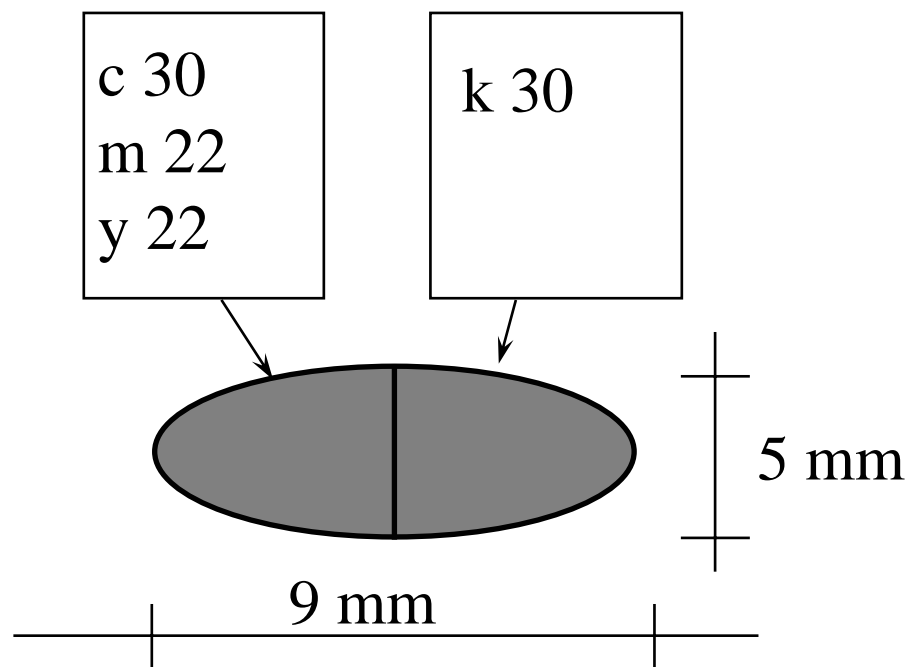


Java-applet



browser plug in 

Grey balance control



At least three control elements per page

Brand (logo) colour control

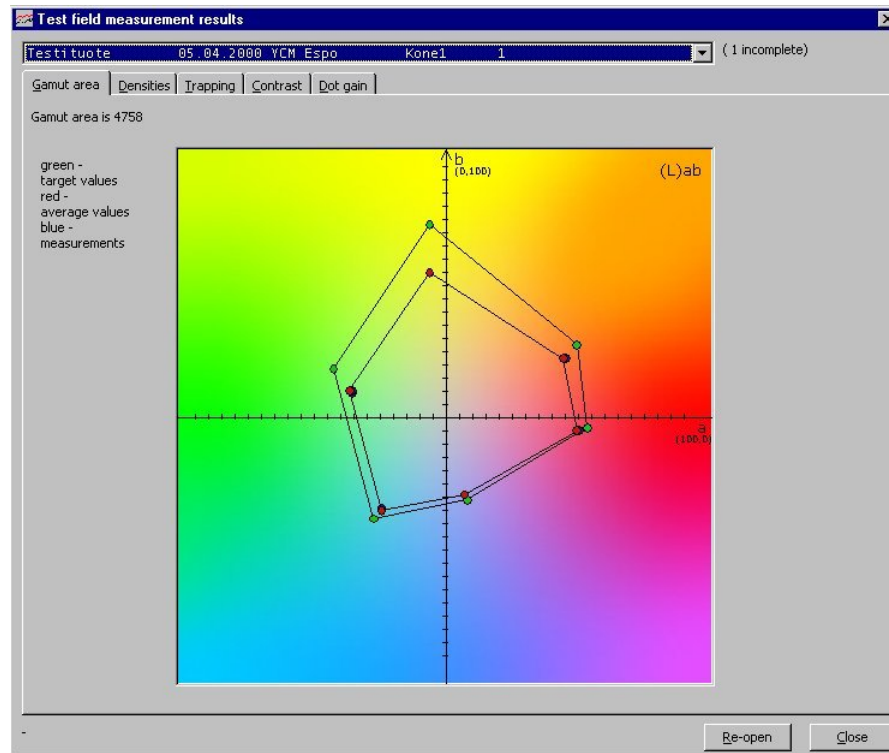


ISO 12647-3 conformity control

Testtarget printed in the newspapers regularly



- density levels
- Lab-values
- dot gain
- contrast
- size of gamut
- trapping



Measuring module - testtarget

Testikentän mittaus

Mittauksen tiedot

Tuote: Painos:

Painopaikka: Julkaisupäivä:

Selkä: Sivü: Paperi:

Painokone: Painoyksikkö:

Kommentteja:

Värien painojärjestys: Syaani, Magenta, Keltainen

Paperin väri:

Kentästön järjestys:

Näytteet

1	2	3	4	5

Statistics - local database

Viewing results

Product files: AI Measuring dates: Aamulehti 16.12.98 Tampere Kone1

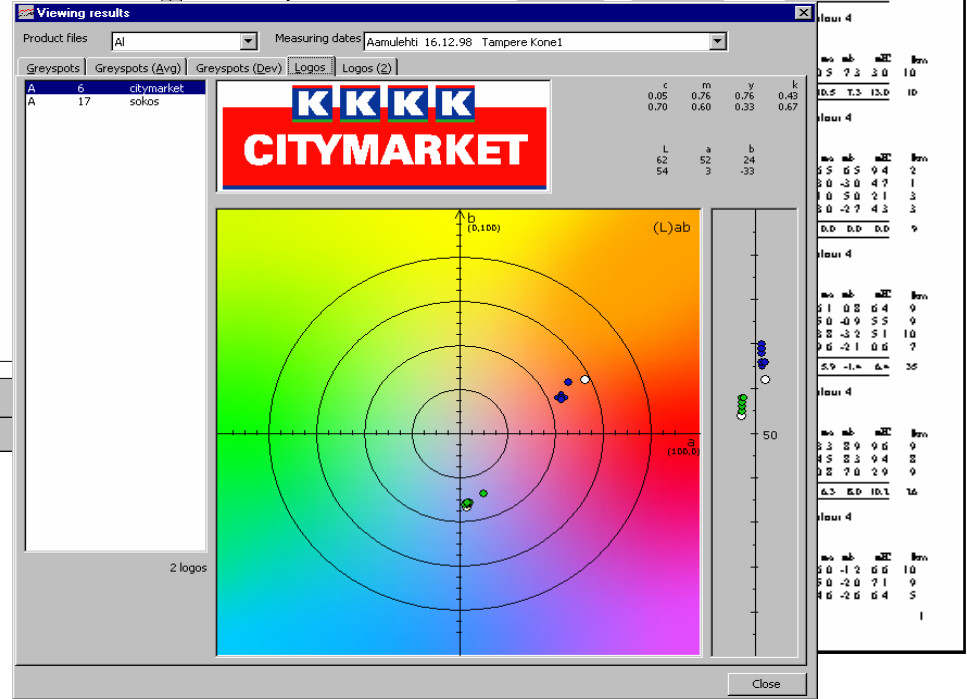
Greyspots: Greyspots (Avg) Greyspots (Dev) Logos Logos (2)

	c	m	y	k	C	c	m	y	k	C	c	m	y	k	C
A 6	0.26	0.27	0.25	0.30	6	0.27	0.28	0.26	0.31	7	0.26	0.26	0.25	0.29	6
A 17	0.31	0.29	0.28	0.33	7	0.29	0.28	0.27	0.33	7	0.28	0.28	0.27	0.32	7
A 21	0.28	0.25	0.25	0.30	7	0.28	0.26	0.25	0.30	6	0.28	0.26	0.26	0.31	6

Report of logo colours 29.1999

Newspaper title: **ANTILA**

average	dev	std	L	a	b	Color 1	Color 2	Color 3	Color 4		
1.18	0.54	41.0	20.2	1.1	1.3	1.8	-1.4	2.2	6.8	0.7	5
1.9	0.57	38.0	18.3	2.6	2.5	1.1	-1.7	0.6	8.7	3.8	7
1.11	0.5	48.0	14.8	0.5	0.8	0.6	2.5	0.1	2.2	2.5	10
1.9	0.5	35.0	14.8	1.1	1.9	0.9	2.5	-2.0	2.3	3.8	8
1.35	0.53	43.0	13.5	0.9	1.5	1.2	0.8	5.0	1.3	4.6	8
0.6	5.9	11.1	11.6	26							



Java-applet - central database

Colonet Client, (c) VTT Information Technology 2000 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address http://imu.vtt.fi/colonet/

haku asetukset toleranssit

Haku

Tuote Aamulehti

Painos -

Päivä 1

Kuukausi 2

Vuosi 1998

Painopaikka Jyväskylä

Painokone -

Selkä 1

Sivu 1

Kierroslukema 0

Pistenro 1

Logoväri nro 0

Logonimi anttila

Suorita haku Keskeytä haku

Colonet Client, Version 2.0
(c) VTT Information Technology
kari kaitanen, 2000

ANTTILA

anttila (66%)

Värikompassi Jakauma Onnistuneet Painosseuranta Väriseuranta Mittaukset Logot Logi

LAB värikartta
ab-arvot (L=64, a=40, b=12)

Aamulehti, -, 11.2.1999, Tampere, -, 1, 35, 0, 1, 3, anttila (c: 0.1, m: 0.64, y: 0.58, k: 0.41)

Aamulehti, -, 11.2.1999, Tampere, -, 1, 35, 0, 1, 3, anttila (c: 0.1, m: 0.64, y: 0.58, k: 0.41)

pyöreä L-arvot

38 mittausta palautettu.

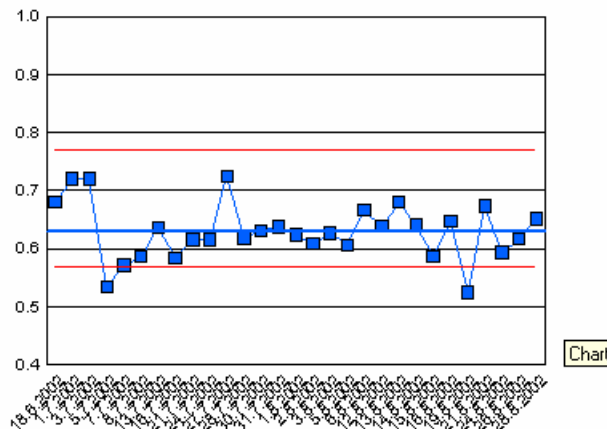
Applet started.

Colonet Client (c) VTT 2000

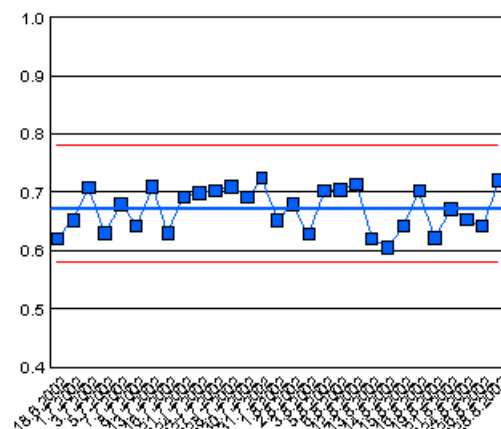
Local intranet

Example - Trendlines of fulltone densities

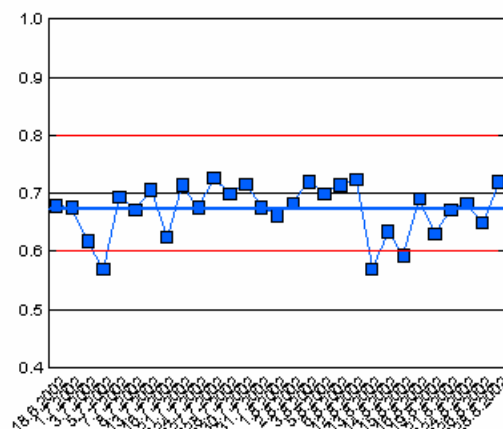
syaani



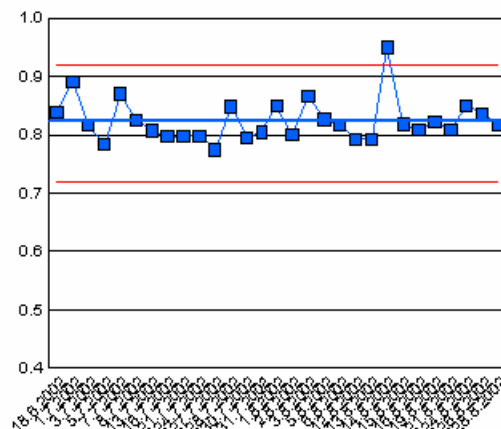
magenta



keltainen



musta



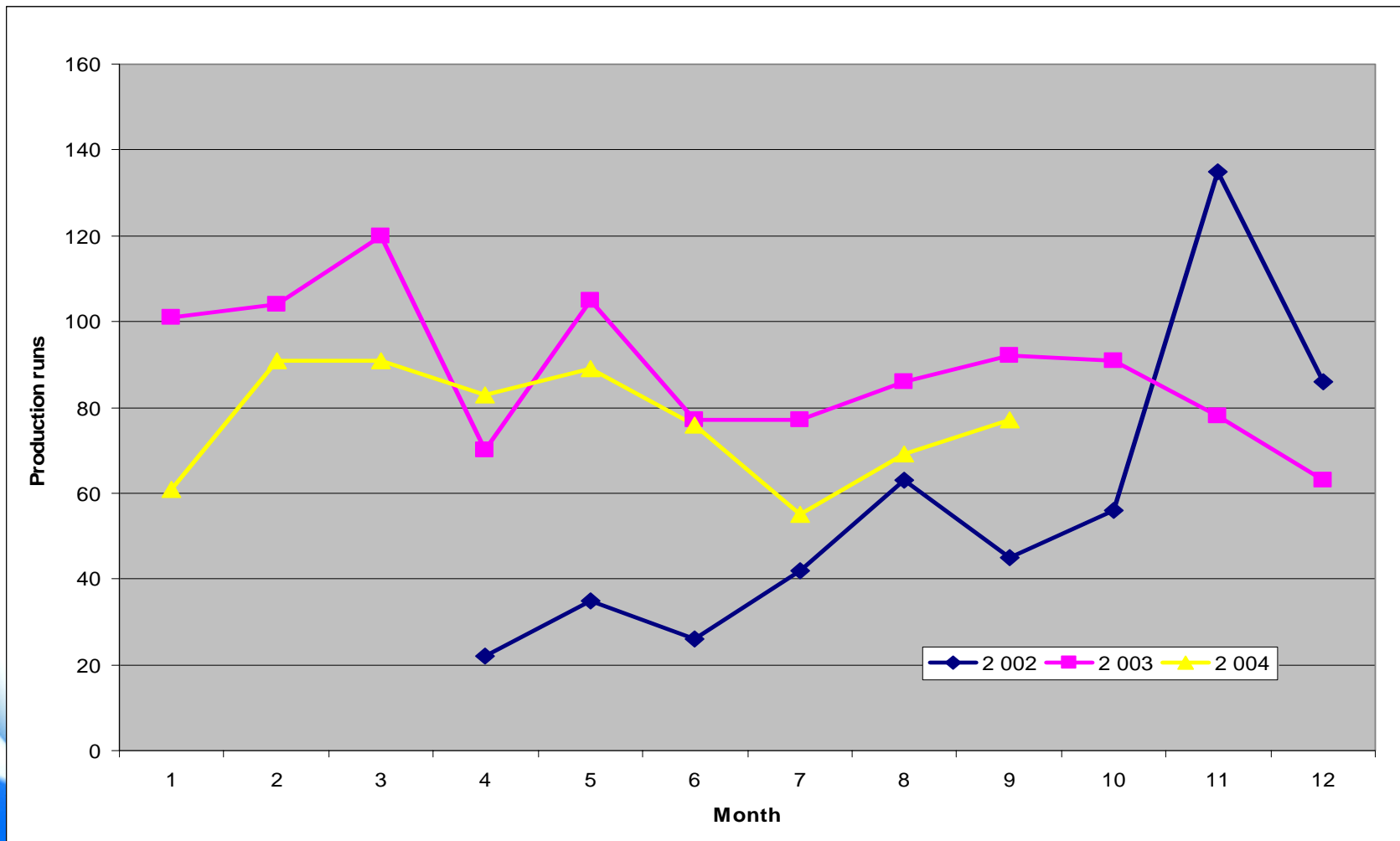
Example – Deviation from ISO 12647-3

120a

Measured runs 284

field	Dotgain	Dens	L	a	b	ΔL	Δa	Δb	ΔE	C
Cyan 50	30,3									
Magenta 50	30,6									
Yellow 50	28,1									
Black 50	26,1									
Cyan 100		0,63	61,8	-22,3	-27,6	-2,8	-0,7	0,6	3,0	
Magenta 100		0,68	56,6	46,5	-2,0	-1,6	1,5	2,0	3,0	
Yellow 100		0,66	80,8	-2,6	57,4	0,2	-2,4	2,6	3,5	
Black 100		0,79	39,4	1,5	3,8	2,6	-0,5	0,2	2,7	
Red			54,5	42,9	21,5	-0,5	-1,9	3,5	4,0	
Green			57,1	-32,6	14,5	-2,1	-1,4	3,5	4,3	
Blue			45,3	7,6	-23,3	-2,3	-0,6	1,3	2,7	
Grey			64,1	0,5	0,3					0,6

Measured production runs in central server



Percentage of newspaper meeting tolerances in 2002

