

# ENGLISH FOR GRAPHIC ARTS II

Adding Value to Print

*Adding value*

What is considered as added value?

# ENGLISH FOR GRAPHIC ARTS II

Adding Value to Print

*Value adding*

# Added value

- Creation of something special
- Personalized prints
- Ink effects
- Coatings
- Exotic folds
- QR codes
- RFIDs
- Printed electronics
- And many more...

## Purpose of added value

- Attractiveness
- Elegance
- Sensory features
- Functional features
- Interactivity
- Security

# Metallic inks

- Metallic effects
  - Metallized paper
  - Metallized foils
  - Metallic powder
  - Metallic inks
- Low cost
- Larger pigments – higher metallic effect
- Best results by PVD

The pound coin: one hundred pence

# An Imprint on Our Heritage

stater  
 unit  
 penny  
 thrymsa  
 sceat  
 dinar  
 halfpenny  
 twenty pence  
 farthing  
 groat  
 double leopard  
 florin  
 half florin  
 halfgroat  
 helm  
 leopard  
 noble  
 quarter florin  
 quarter noble  
 half noble  
 angel  
 half ryal  
 quarter ryal  
 (rose noble)  
 angel (angelet)  
 testoon  
 testoon  
 sovereign  
 double sovereign  
 treble sovereign  
 crown of the double rose  
 crown of the rose  
 george noble  
 half george noble  
 halfcrown  
 crown  
 five shillings  
 half sovereign

two shillings  
 three shillings  
 three shillings  
 tenpence  
 sevenpence  
 one shilling and twopence  
 one shilling and threepence  
 one shilling and sixpence  
 one shilling and ninepence  
 one shilling and fourpence  
 five shillings and eightpence  
 elevenpence  
 triple unite  
 quarter laurel  
 laurel  
 half laurel  
 unite  
 thistle

The name pound and the symbol that depicts it, derives from the Latin word for scales or balance, *libra*, standing for *libra*, the basic Roman unit of weight. In turn comes from the Latin word for scales or balance, *libra*, because it was first introduced as a British unit of weight of fine (pure) silver.

A currency based on bullion was presented to the king in 1202. Its intrinsic worth made it tempting to use the precious metal for it before pure gold. The pound sterling was to use the pound becoming the small brass coin. The pound manifesting the small brass coin. The pound enigmatic newcomer.

Often abbreviated to 'p' or '£', the pound is a reserve currency and the fourth-most used in the US.

# Effect pigments

- Giving visual sensations as: gloss, shimmer, silk, glitter, iridescence, interference colour and pearlescent effects
- Generally, effect pigments are smooth, transparent, or semitransparent platelets with encased metal oxide layers that are millionths of millimeter thick
- Light is reflected in multiple ways

Effect pigments



# Fluorescent inks

- Absorb energy and re-emit it in a narrow wavelength band at different and always longer wavelength than the received radiation
- Most commonly:
  - Rhodamine – red to violet
  - Aminonaphthalinimide – yellow
  - Encapsulated in a pulverized transparent synthetic resin carrier

# Fluorescent inks



# Phosphorescent inks

- Slow re-emitting of radiant energy that is perceptible in the dark
- Mostly – inorganic microcrystalline pigments doped at their core with foreign atoms
- 5 to 20  $\mu\text{m}$  – cannot be used in offset

# Phosphorescent inks



# Thermochromatic inks

- Leuco dyes – dyes surrounded by a protective wall coating through the process of micro encapsulation
- For all printing processes
- Combination of thermochromatic and conductive ink layers is used in disposable battery testers

Thermochromatic inks



⌚ 1234567890⌚ ⌚ 1234567890⌚ ⌚ 1234567890⌚ ⌚ 1234567890⌚

# Magnetic inks

- Symbols and special characters used for checks or other financial documents
- Automation for reader-sorter machines
- Magnetic Ink Character Recognition (MICR)
- Iron oxide pigment in magnetic paste for letterpress and offset

# 3D-Printing

- Not object printing but creating a stereoscopic image
- Most techniques require a viewer element: parallel sighting or cross-eye stereoscopes, head-mounted displays, LCD shutter glasses, polarized glasses, interference technology glasses, complementary colour filter glasses

3D-printing



# Scratch-off inks

- The beauty of revealing information
- Opaque inks and easily removable inks by scratching
- Typically latex inks with highly opaque aluminum powders
- Offset, gravure, flexography
- The concealed message is protected by a UV varnish interlayer

Scratch-off inks



# Pop-up books

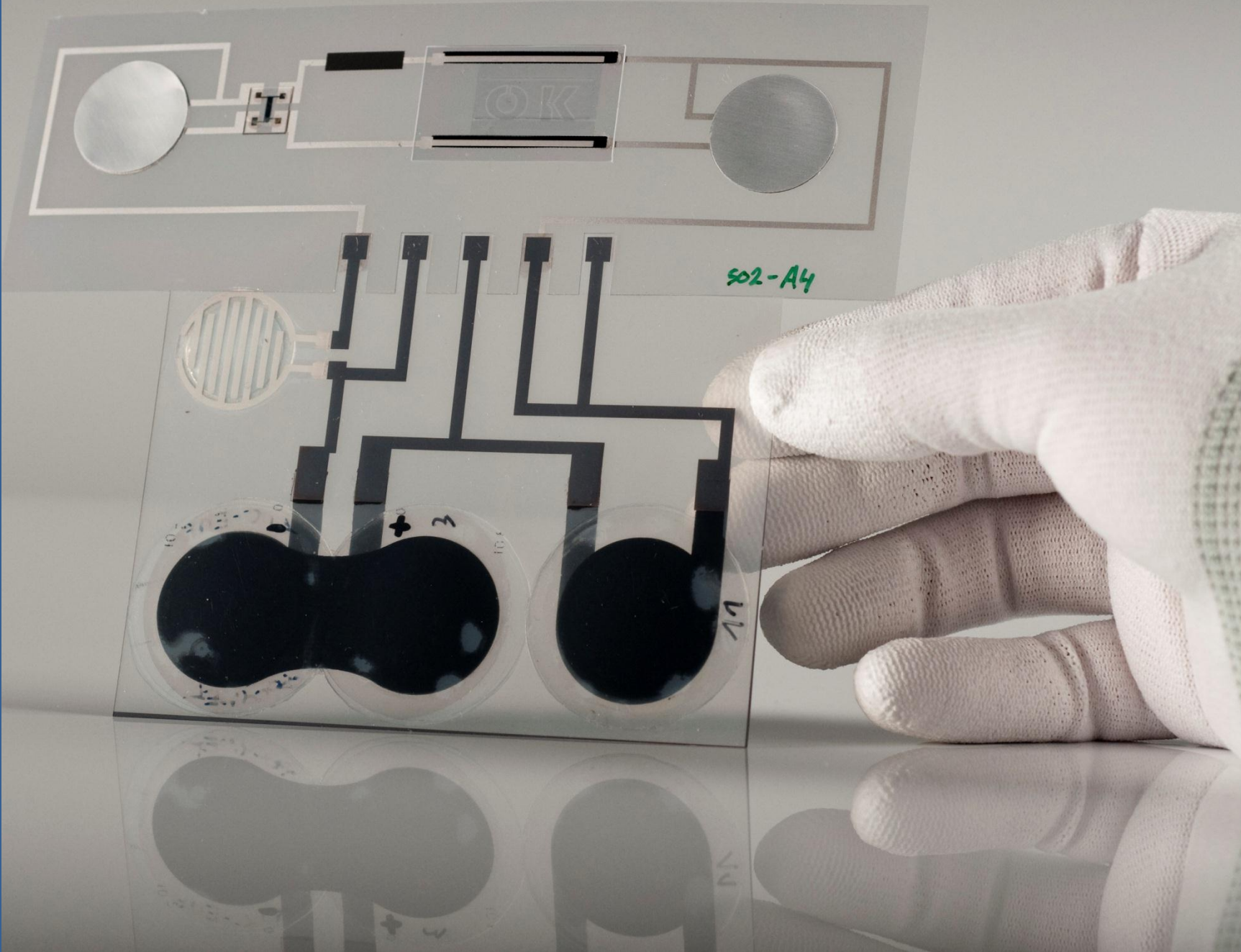
- An interesting example of exotic folds is the pop-up book
- Can be also combined with moving parts
- The interactivity can be enhanced even by printed electronics as OLEDs



# Printed electronics

- Circuits
- Displays
  - LED
  - OLED
  - QD
- Batteries

# Printed batteries



# References

- [Adding Value to Print](#)

Thank you for  
your attention!