

# Intelligent Sample Bank (ISB) software – practical experiences

Marie Karlíková, Radek Kučera, Ondřej Topolčan

Fakultní nemocnice Plzeň

a Univerzita Karlova - Lékařská fakulta UK Plzeň

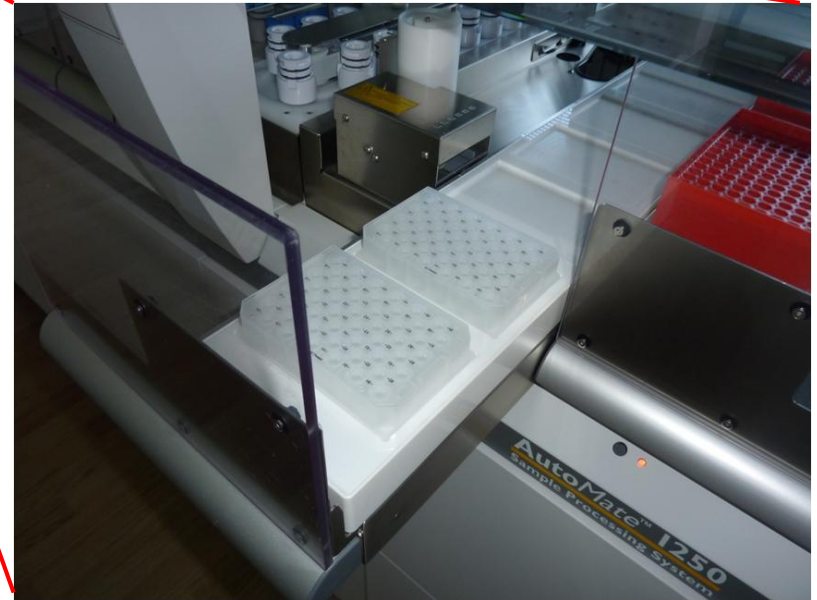
# What is ISB?

- an application used to archive and track aliquot samples long term (up to 5 years)
- complement to pre-analytical robot AutoMate 1250 and 2550 by Beckman Coulter, Inc.



## AutoMate 1250

Space for microtiter plates



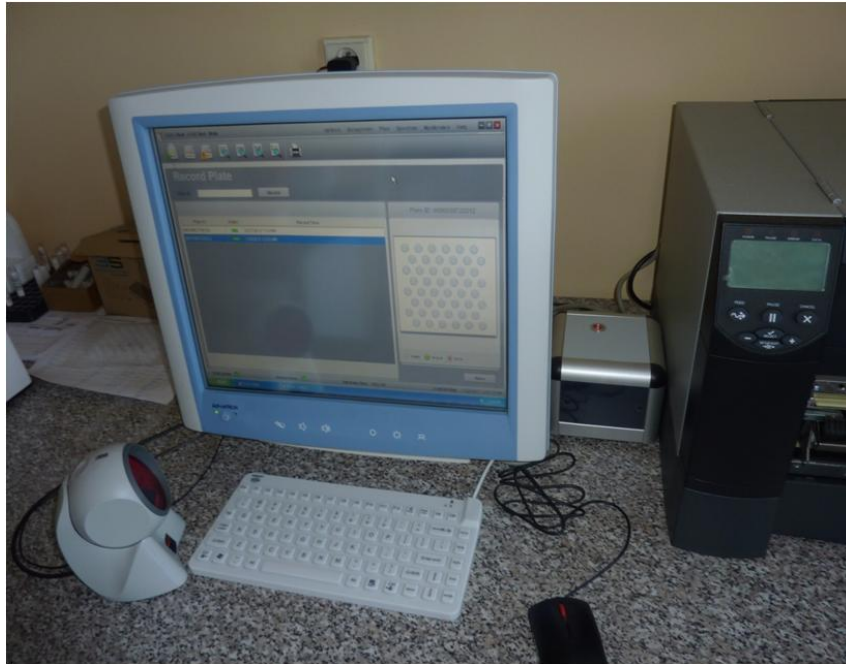
# Microtiter plate



1D code



2D code



Computer interface



1D and 2D scanners



Search

Plate ID: 6600000720207


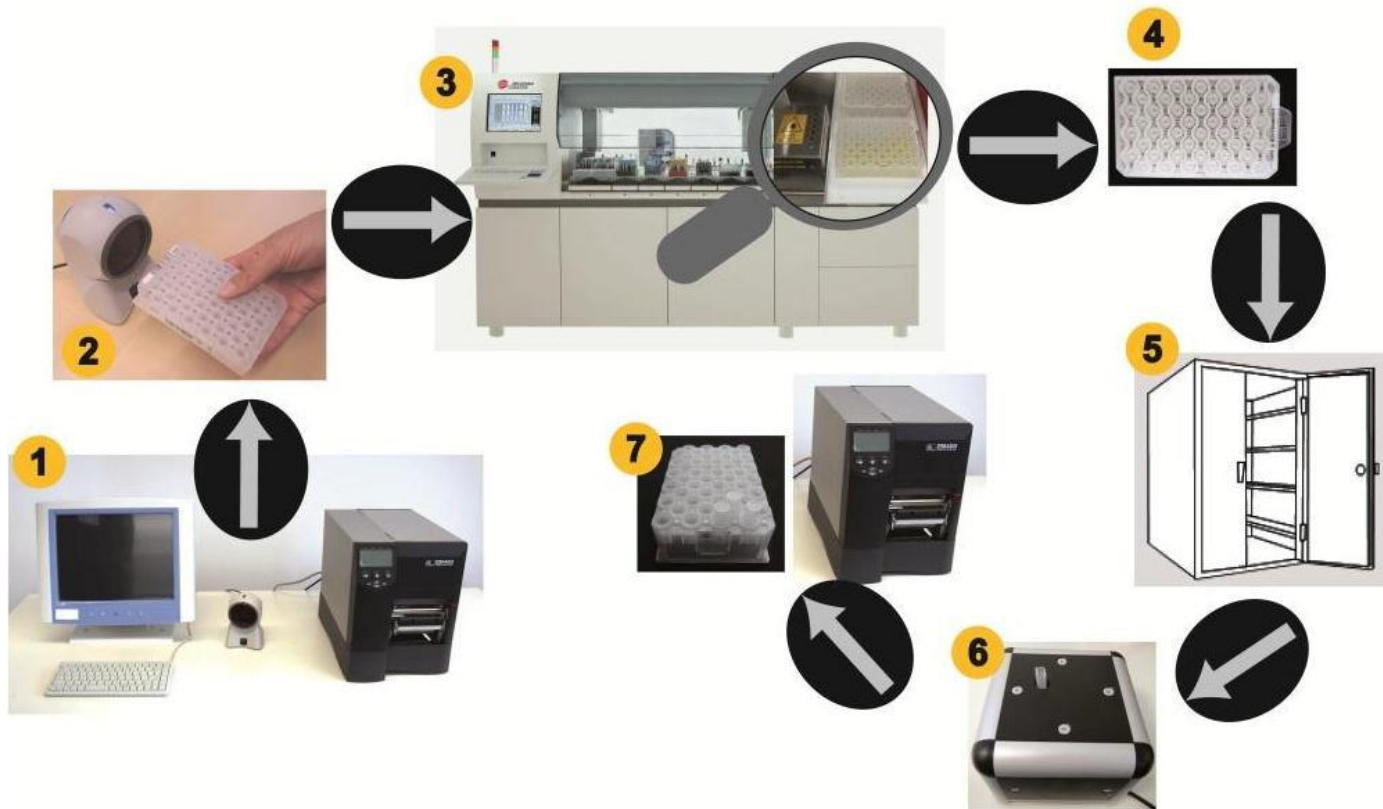


Plate ID:	6600000720207
Position:	C03
Storage unit:	Freezer2
Section:	1
Patient name:	Fousova Anna
Primary barcode:	<a href="#">AS1505050587</a>
2D code:	0072020714
Volume:	133 $\mu$ l

# Laboratory workflow





# Specimen retrieval



- Search criteria: name, date
- In this version is NOT possible to search with criteria: f.i. test code

# Our experience (1)



- 2 months testing
- Sample acquisition: 3 times a week, average number of samples per acquisition: 10
- Number of plates stored: 19, number of serum samples: 170
- Each sample has 4 aliquots, each aliquot contains approx. 150-200 ul

# Our experience (2)



## Advantages:

- Automatic sample handling – minimising human error, fast, go-away system

## Disadvantages

- Low volume errors
- No optimal database
- **Not optimal for small sample frequency per day**

# Troubleshooting

- Low volume errors - to collect 1 extra tube of blood
- No optimal database - additional IT solution (also for sample anonymisation,...)
- small sample frequency – tubes stored at 4 °C until the end of shift, then processed en bloc, or ...?

# Conclusion

- Automatisatisation is necessary for a biobank, in order to assure standard workflow and minimise human errors
- Expect to encounter troubles at the beginning – an intense communication with the software provider is necessary
- To set up optimal SOPs is crucial