



BORDERSENS

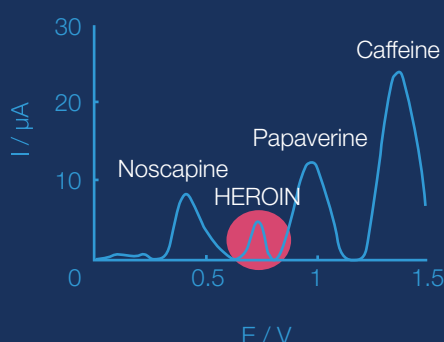
Border detection of illicit drugs and precursors by highly accurate electrosensors

THE DEVICE

- Fast electrochemical assay (<45 s)
- Detection of illicit drugs, cutting agents, precursors
- User friendly - no need of trained personnel
- Wireless and wearable device

INTEGRATED CORE TECHNOLOGIES

- Electrochemical fingerprinting technologies
- Selective Nano Molecularly Imprinted Polymers
- Nanostructured sensors
- Advanced data analysis customized algorithm
- Miniaturized portable reader
- Enhanced security



HOW DOES IT WORK?



- 1 Load the sample into the **sampler** (powder or liquid)
- 2 Add the **solution** and mix
- 3 Insert sensor
- 4 Push start button

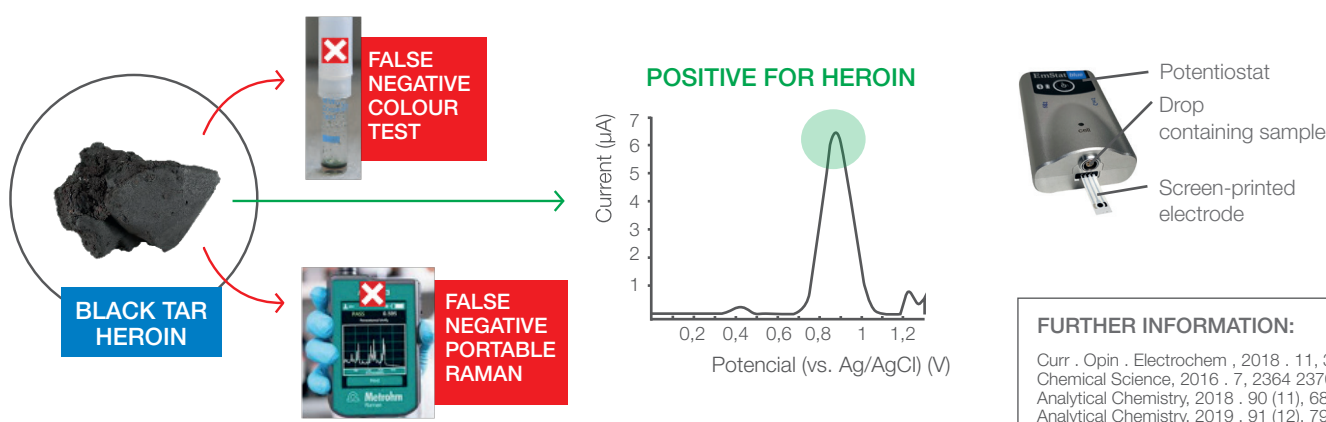
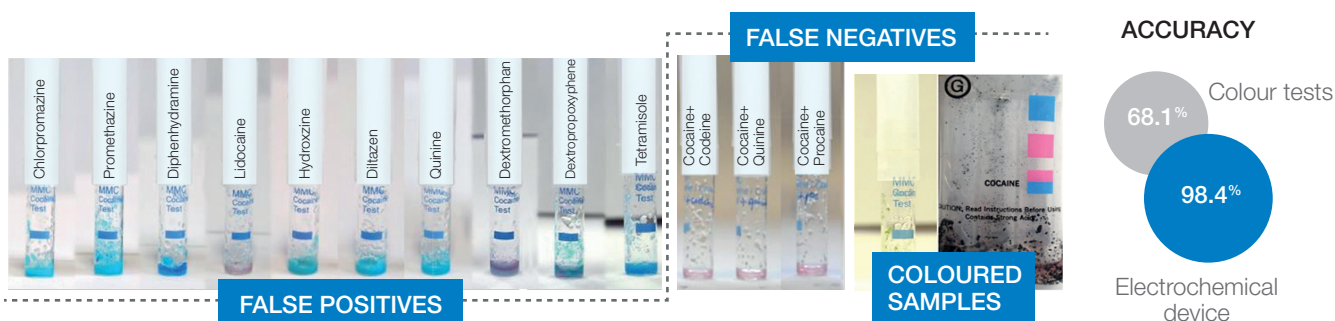
BorderSens project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 833787



WHY BORDERSENS

	Electrochemical device	Colour tests	Portable spectroscopic instruments (Raman, IR)
Nature of samples	Coloured Non-coloured powders Solutions	Only non-coloured powders (specific tests per narcotic class)	Mostly non-coloured powders (high fluorescence background for (most) coloured samples)
Accuracy	High (> 95%)	Low (69% for cocaine)	High (non coloured)
Price/analysis	Low (< 5 euro)	Low (< 5 euro)	High (expensive equipment, above 20 000 euro)
Minimum amount needed	Nanogram	Miligram	Miligram
Simultaneous detection	Yes (array)	No	Yes
Output	Info on compound and adulterants and precursors	Only yes/no	Compound
Selectivity	High (due to fingerprint and MIPs)	Low	High
Interpretation of results	App-software based	Colour change Software	Software based
Storage of data	Yes	No	Yes
Alarm for new drugs	Yes	No	No
Portability & user friendliness	High (e.g. integrated in a belt)	High	Low-High depending on the size of the device (SERS-kit is needed for heroine)
Analysis time	< ca 45 seconds	< 1 minute	< ca 4 minutes

CHALLENGES OF COMMERCIAL TESTS



Keep in touch!

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