

LIMS LASER ION MOBILITY SPECTROMETER



SPHEREA

LIMSSENSOR SMELLS NEW MARKETS FOR SPHEREA

My name is LIMSensors™. I am the hypersensitive "good nose" that is able to detect explosives, drugs and chemical agents. By the use of a laser, my sense of smell is "thirty times" more sensitive as the sense of smell of a dog. My size is relatively compact so that I will fit into a Trolley. My low power consumption allows me to measure up to 10 hours continuously.

My various operational areas are developed at Sphera in Ulm. They reach from process control in several industrial areas over medical technique up to security technology.

My strength is the online measurement and detection of known chemical substances.



TYPICAL APPLICATIONS ARE:

- Security
- Semi-conductor air quality
- Industrial factories
- Air quality within aircrafts

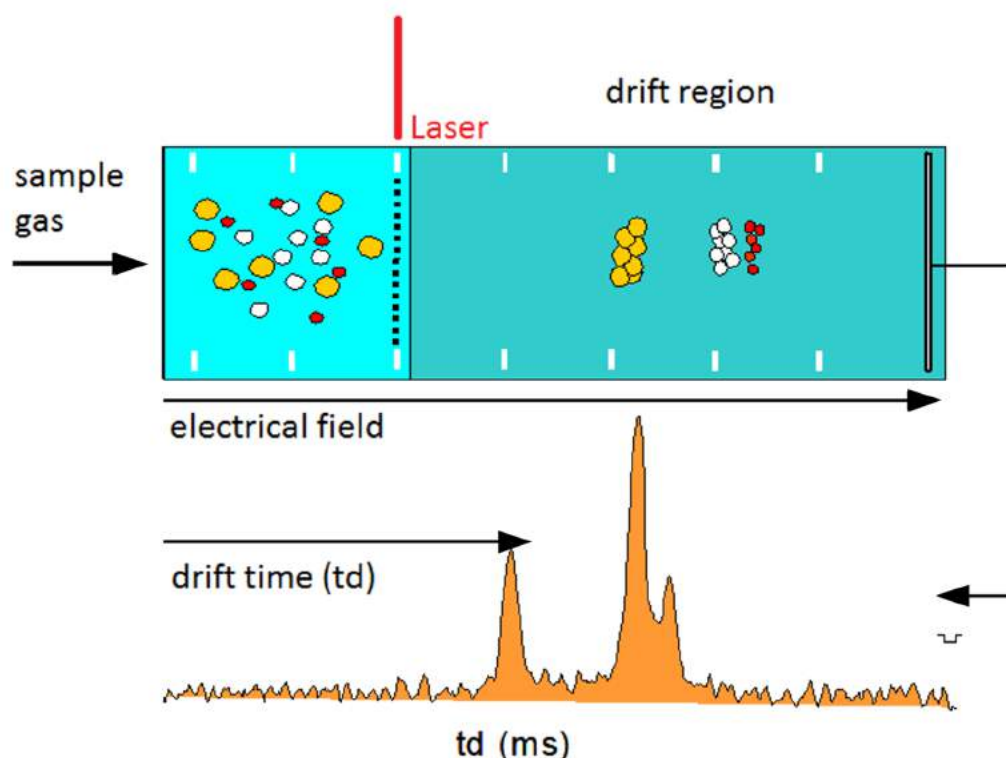
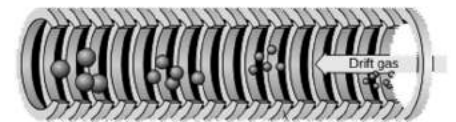
SENSOR TO DETECT **SPECIFIC CHEMICAL SUBSTANCES** IN VERY LOW CONCENTRATION

A UNIQUE OPPORTUNITY

LIMS is a promising project able to cover a wide range of applications and industries. We spent several millions euro in the project creating a strong entry barrier with a disruptive technology.

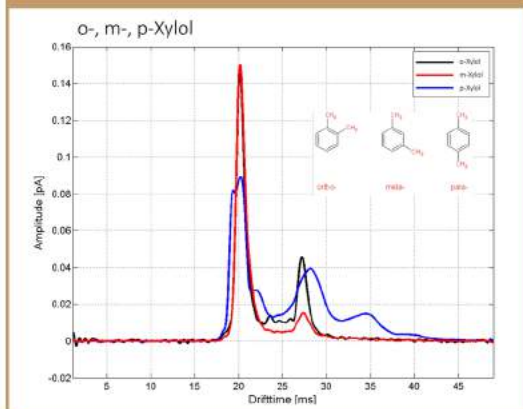
WHAT IS LIMS?

- ✔ Ion Mobility Spectroscopy (IMS) is a mature process used to identify molecule of a gas. Its consists in analyzing the molecules in an electrical field after having ionized them.
- ✔ LIMS use a Laser as ionization source where competitive technology use radioactive substance. Key advantages are:
 - Better selectivity of the Laser and consequently high sensitivity: the sensor is able to detect very low concentration (parts per trillion= 10^{-12}) of gas in the air
 - Limited handling and export issues
- ✔ LIMS is capable to analyze in real time a gas flow.

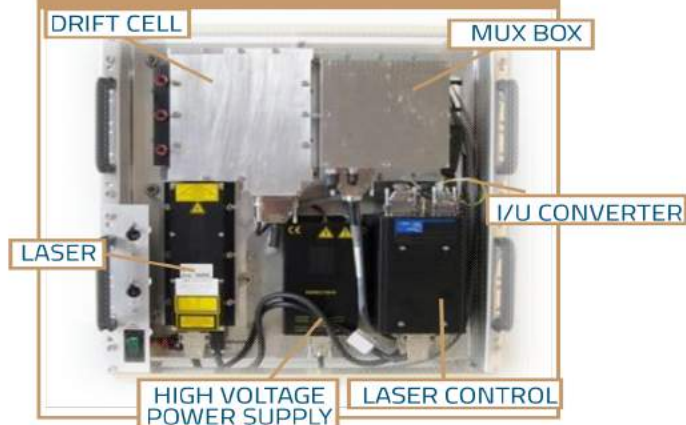


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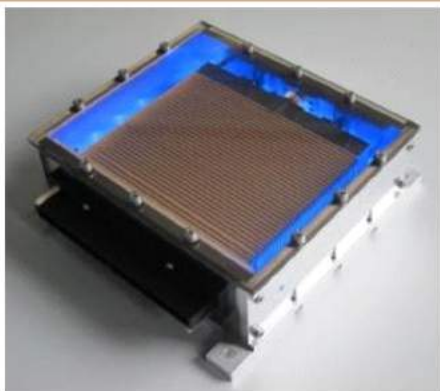
RAW DATA OF MEASUREMENT



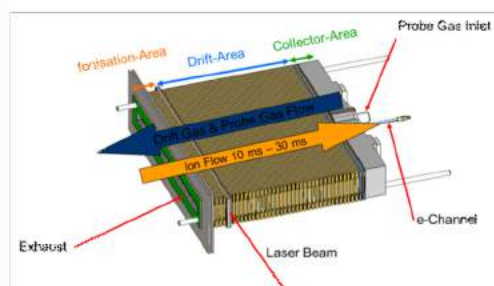
LIMS COMPONENTS



DRIFT CELL DESIGN



DRIFT CELL SCHEME



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