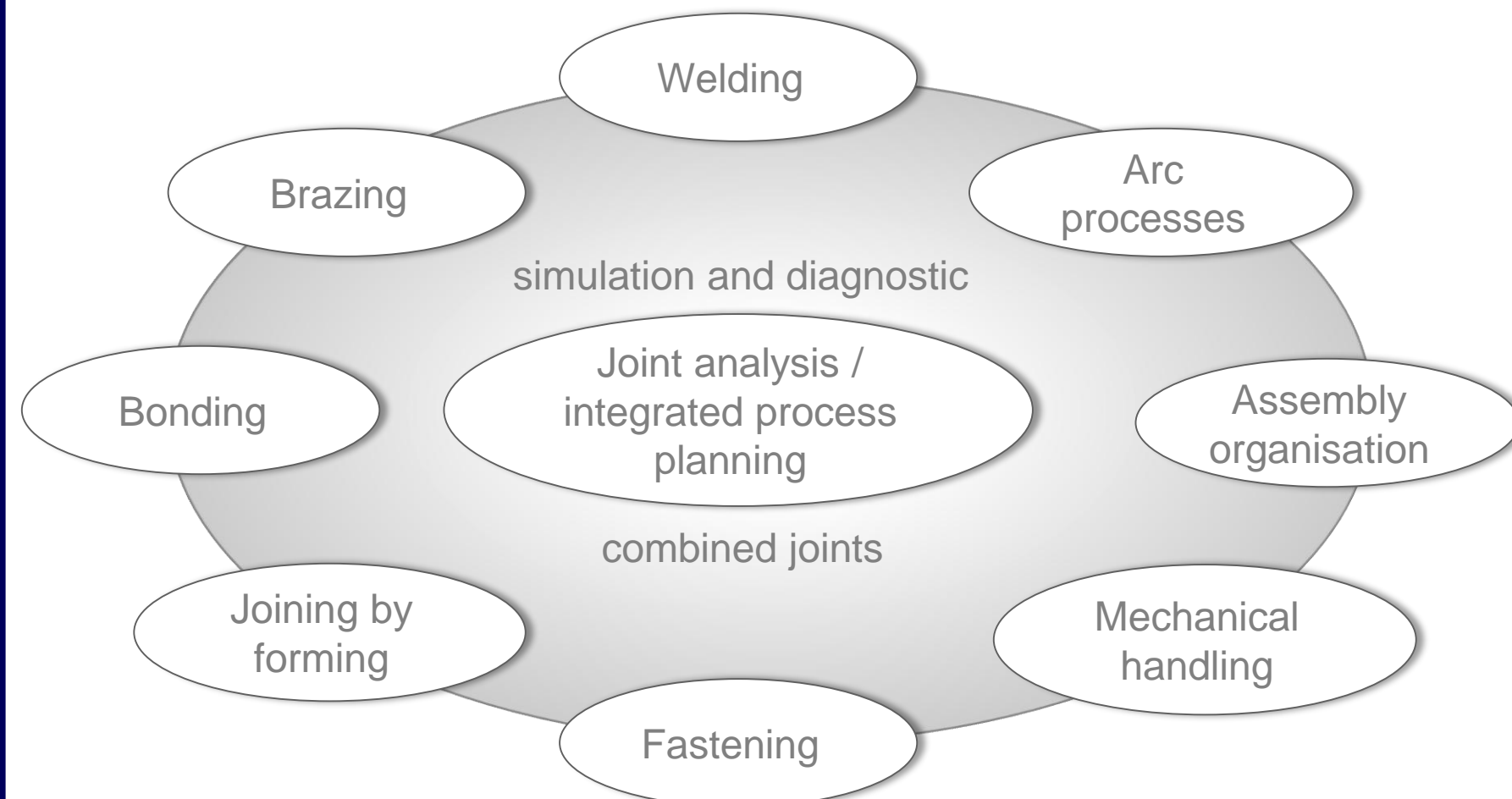


### Fields of Competence

- Welding
- Brazing and soldering
- Bonding
- Mechanical joining
- Fastening
- Mechanical handling
- ⇒ Analysis and characterization of joints
- ⇒ Process planning
- ⇒ Hybrid joints

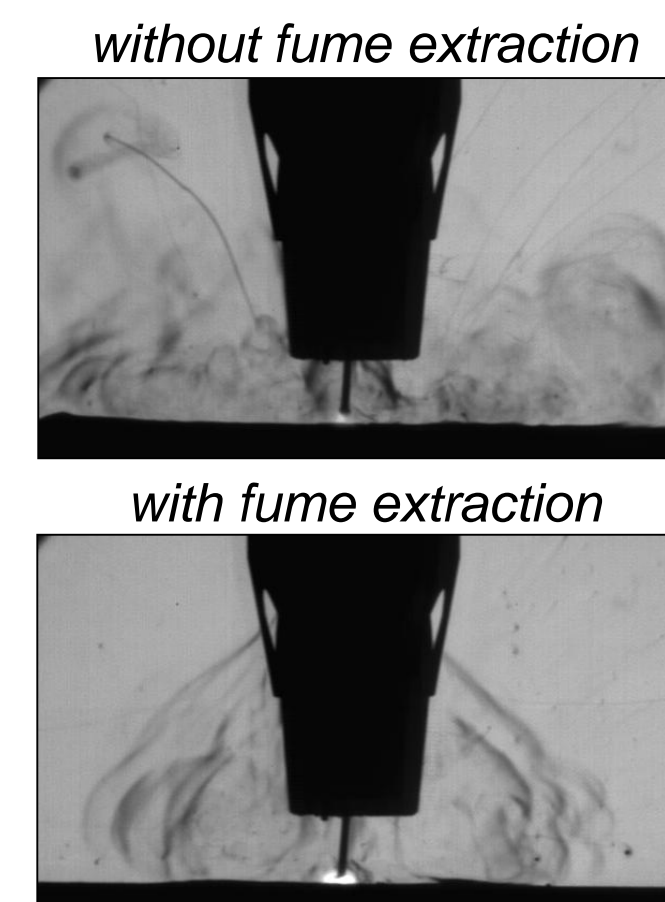
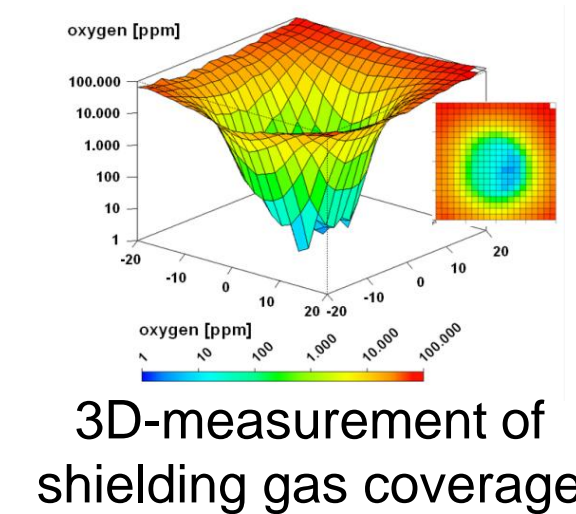
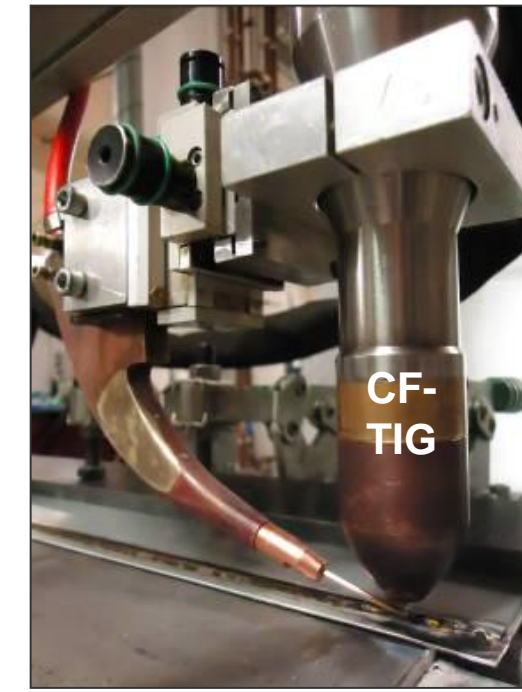


- Arc welding
  - Numerical simulation
  - Diagnostics
  - Process development
  - Torch development
- Resistance spot welding
- Health safety – fume emissions

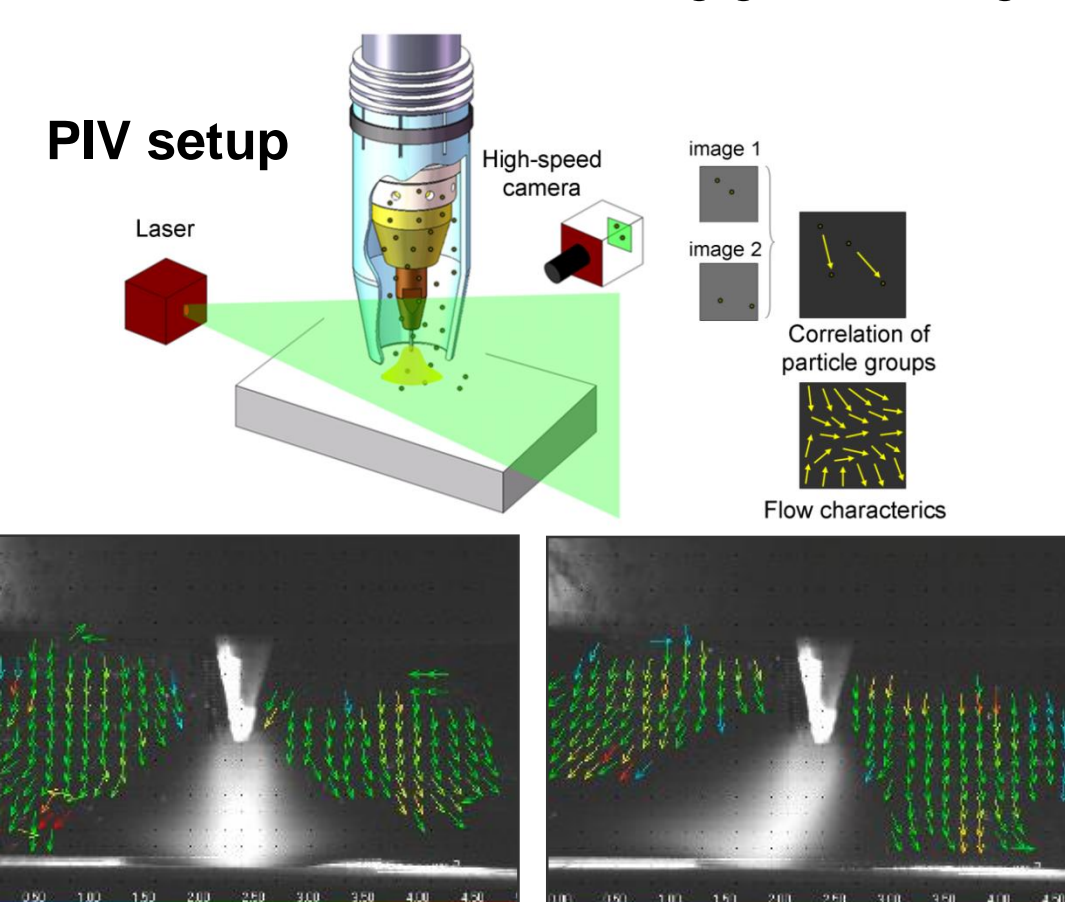
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### Equipment

- Arc welding processes
  - GMAW (MIG / MAG)
  - Tandem GMAW
  - GTAW (TIG)
  - CF-TIG (cathode focused TIG)
  - narrow groove welding
  - Plasma Welding (PAW)
  - LA-PAW (laser-assisted PAW)
- Automated test stands with diagnostics
  - High speed imaging and processing
  - Oxygen content measurement
  - Schlieren measurement
  - Particle image velocimetry (PIV)

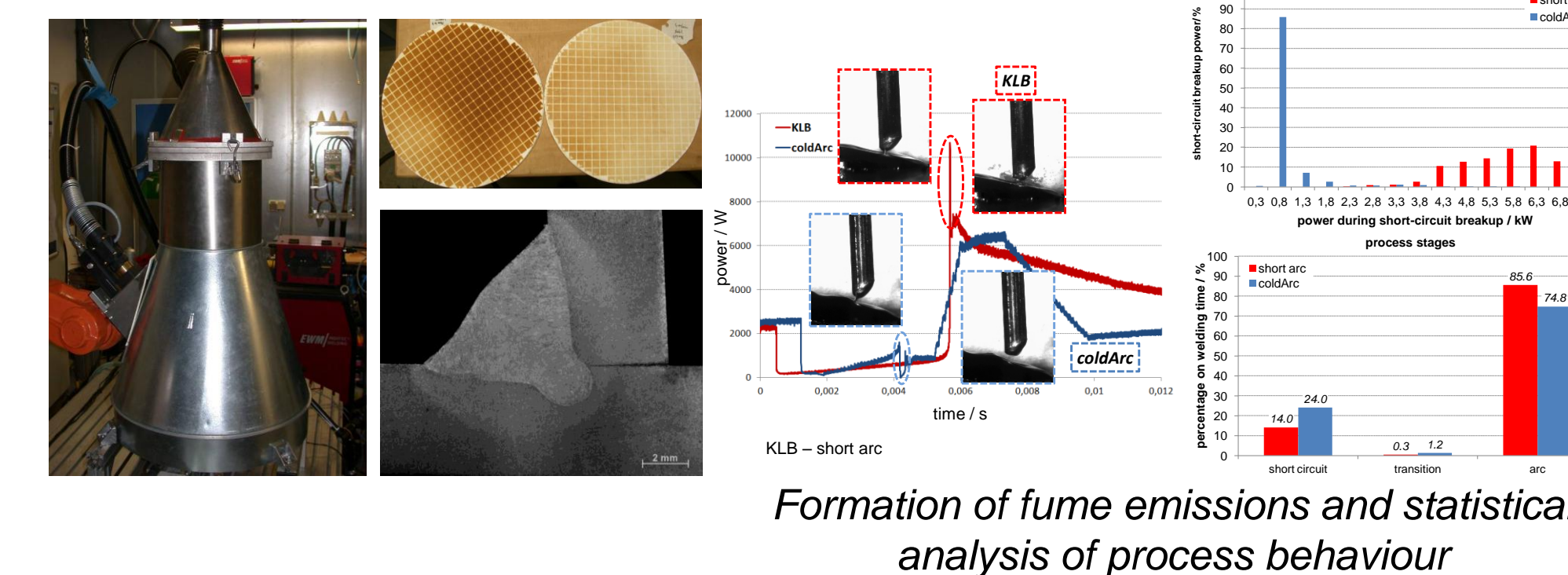


Schlieren measurement of fume extraction torch (in cooperation with Abicor Binzel)

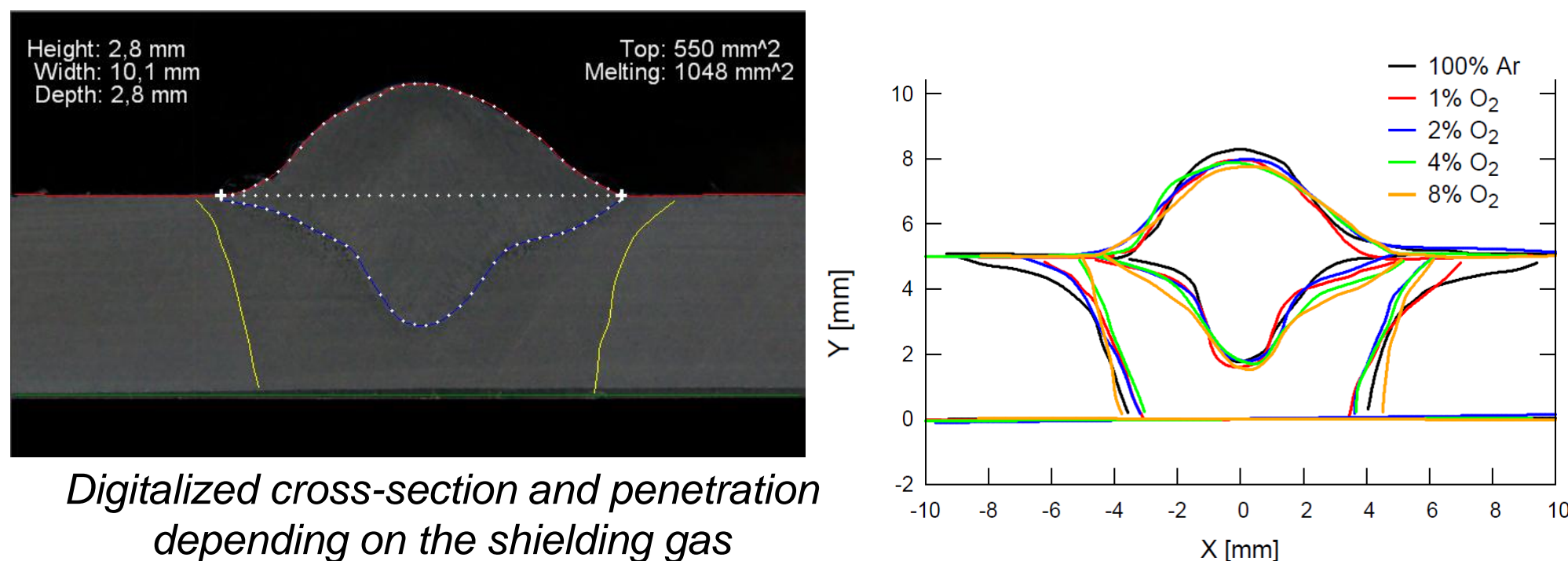


external magnetic field: 0 mT      external magnetic field: 10 mT

### ■ Fume box and fume analysis

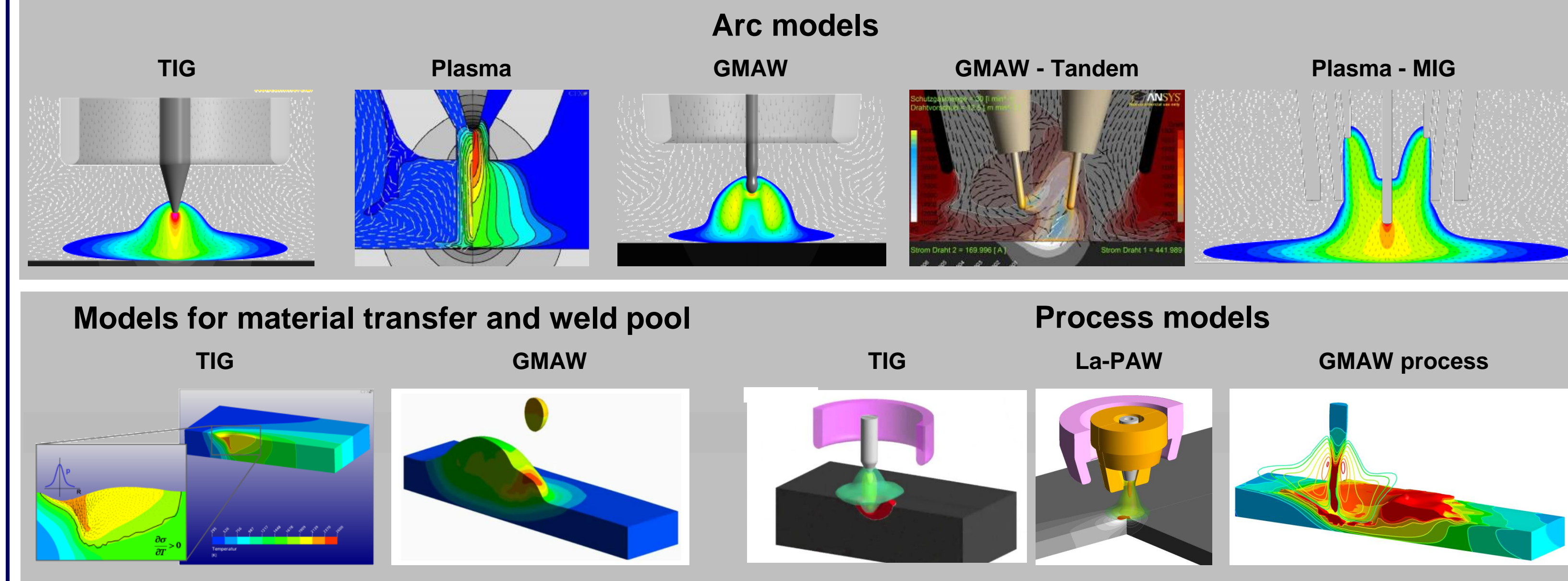


### ■ Metallurgic characterization

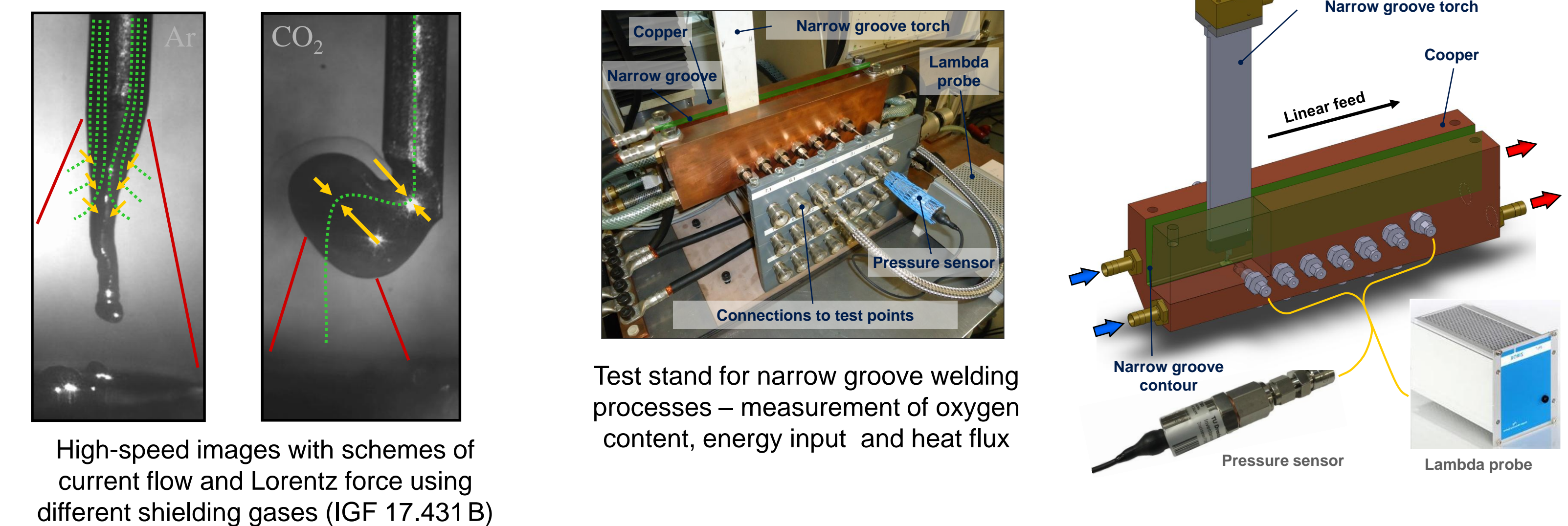


### Fields of research and application in arc processes

#### ■ Numerical simulation



#### ■ Process diagnostics



#### ■ Process development and application

