

GONZALVO, PILAR

Laboratory Responsible

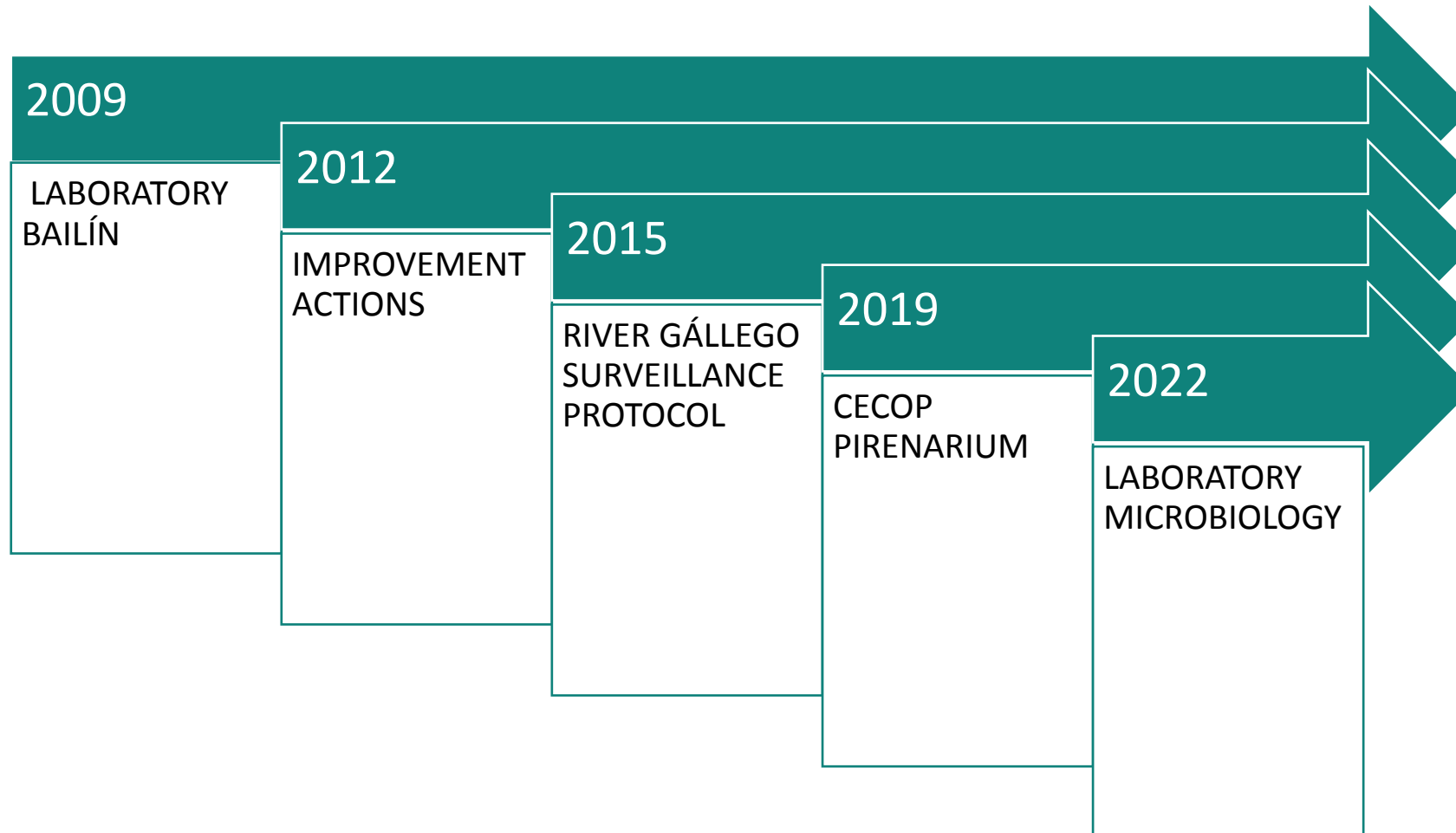


LABORATORY HCH SABIÑÁNIGO-REFERENCE CENTER IN RESEARCH ON PERSISTENT ORGANIC COMPOUNDS

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CECOP. REFERENCE CENTER FOR PERSISTENT ORGANIC POLLUTANTS



QUALITY OF
SERVICE+
INVESTIGATION

LINES OF WORK

WHITE ZONE

"Clean" samples from the river, with concentrations of 0,02-10 ppb.



CROMATOGRFÍA

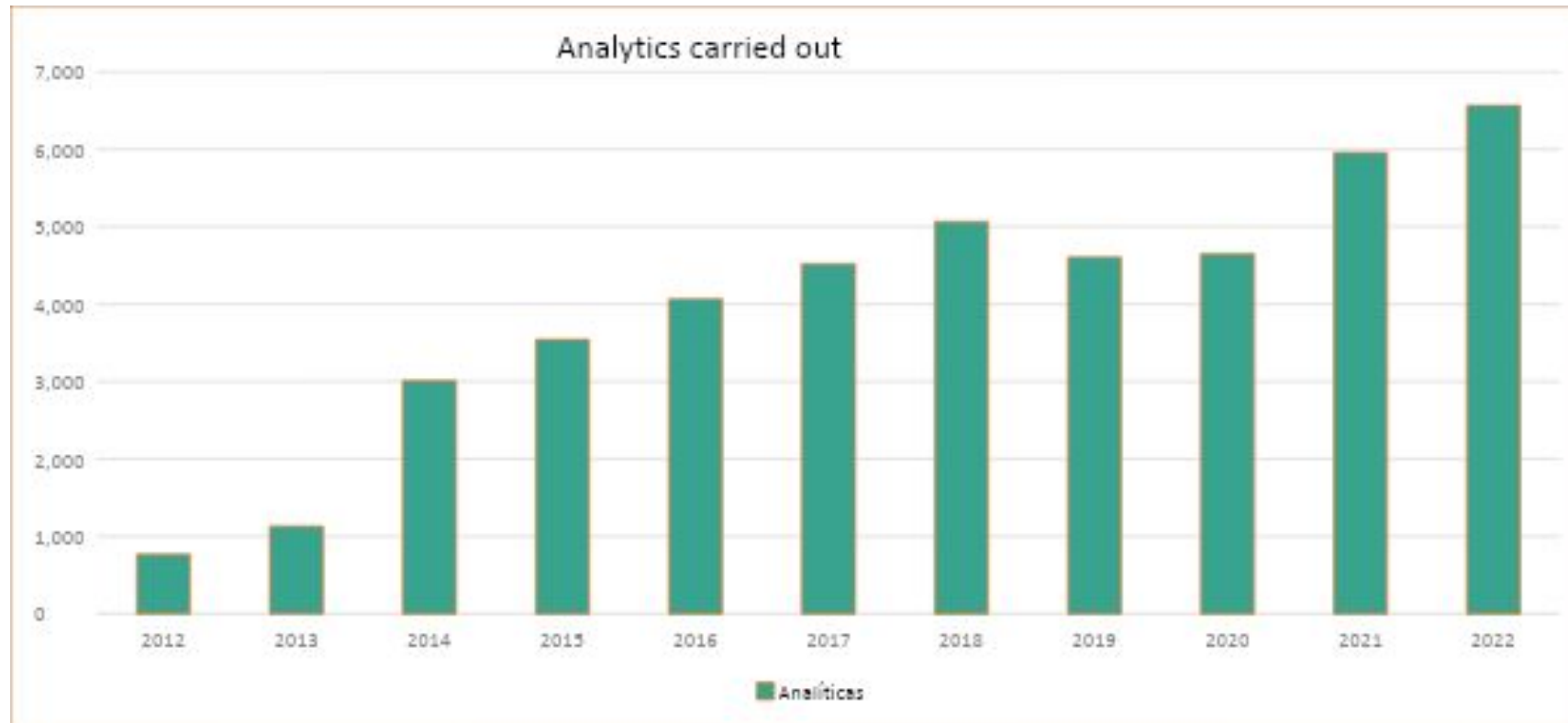
ZONA GRIS

GRAY ZONE

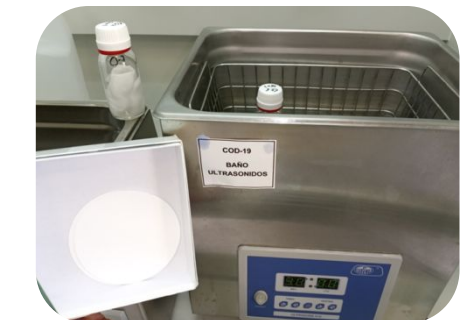
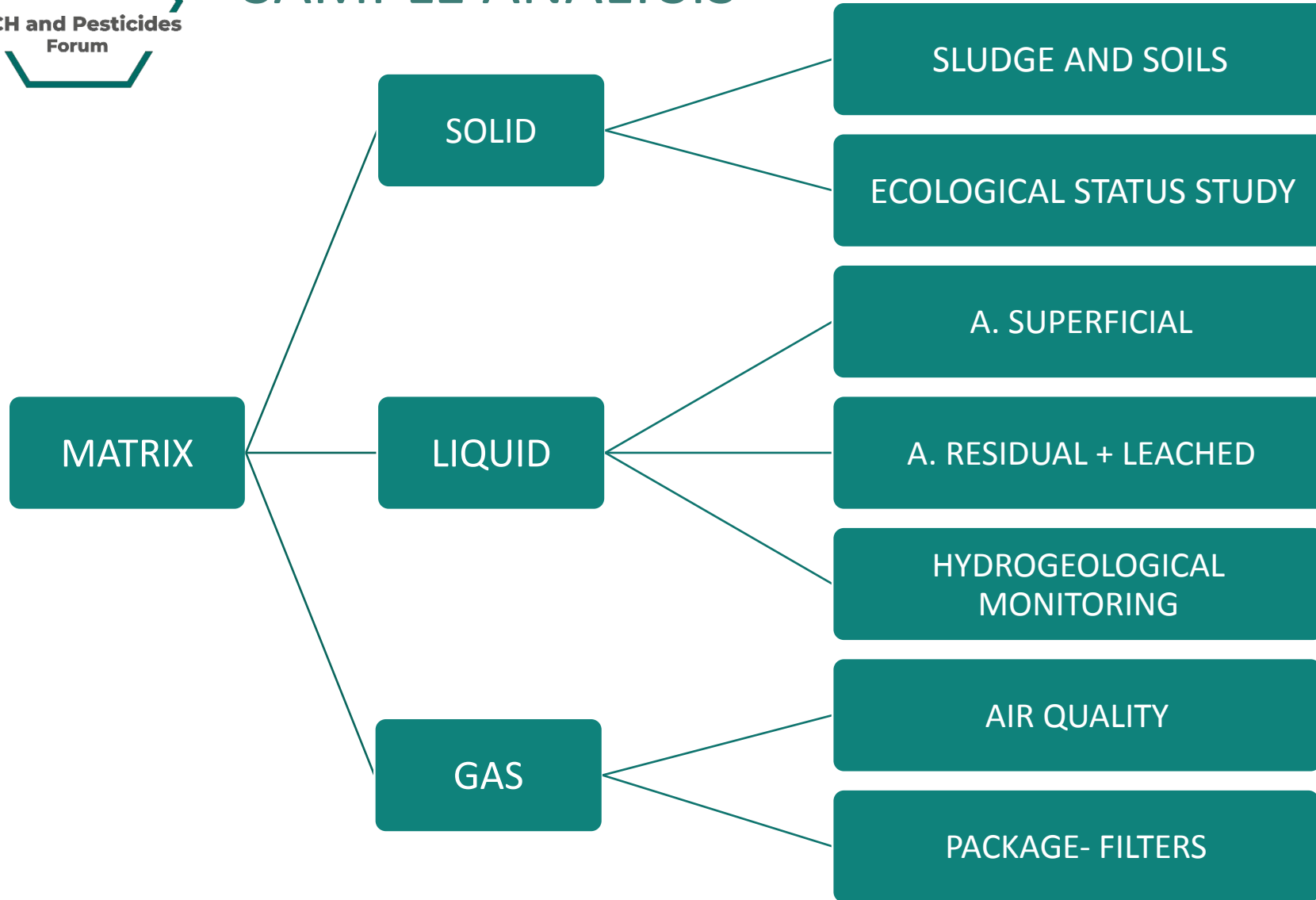
"Most contaminated" samples from: treatment plants, contamination plumes, tests and investigations.



ANALYSIS CAPACITY SAMPLES



SAMPLE ANALYSIS



ANALYSIS CAPACITY

PREPARATION

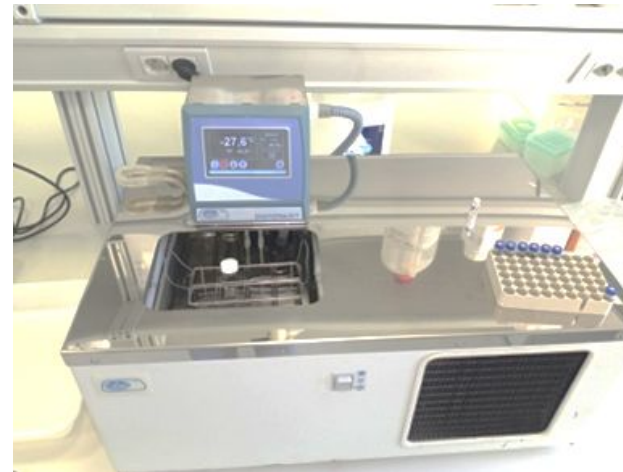
EXTRACTION

ANALYSIS



RECEPTION AND TREATMENT OF SAMPLES

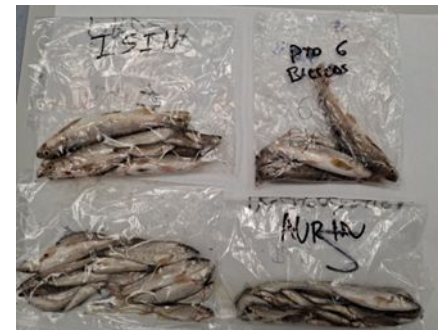
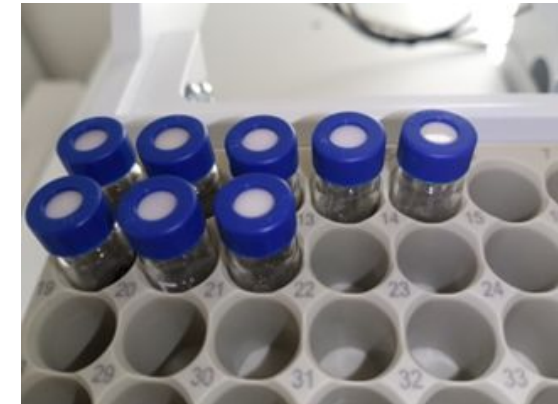
- Analytical balances.
- Screening machines - Cracking machines (separate the solids based on their granulometry)
- Vortex (vigorous stirring)
- Centrifuges.
- Thermostatic baths (heat)
- Cryogenic Baths (freeze to -30°C)
- Rotary evaporators (evaporate)



EXTRACTION SYSTEMS

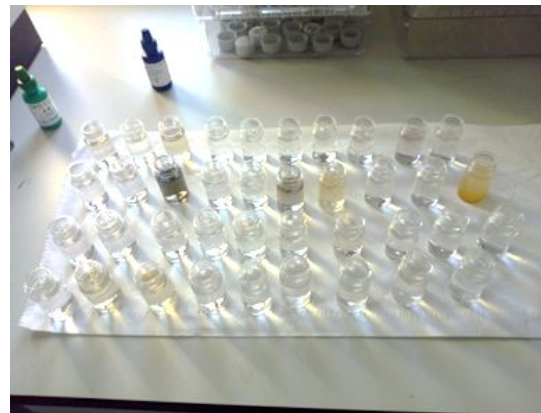
- Solid extraction equipment :

- ❑ Microwave (stirring with solvent at high temperature)
- ❑ Ultrasonics (vibration-shaking of the particles with solvents)
- ❑ Soxtec (refluxing of solvent at high temperature)
- ❑ QuEChERS (solid phase extraction method for the detection of pesticide residues in food).



ANALYSIS AREA

- Measuring probes (pH , Conductivity, Redox, Ion Selective Probes)
- Burettes-stirrers (volumetric analysis)
- Spectrophotometers (analysis of anions and cations, COD)



CHROMATOGRAPHY

ANALYSIS OF ORGANIC COMPOUNDS:

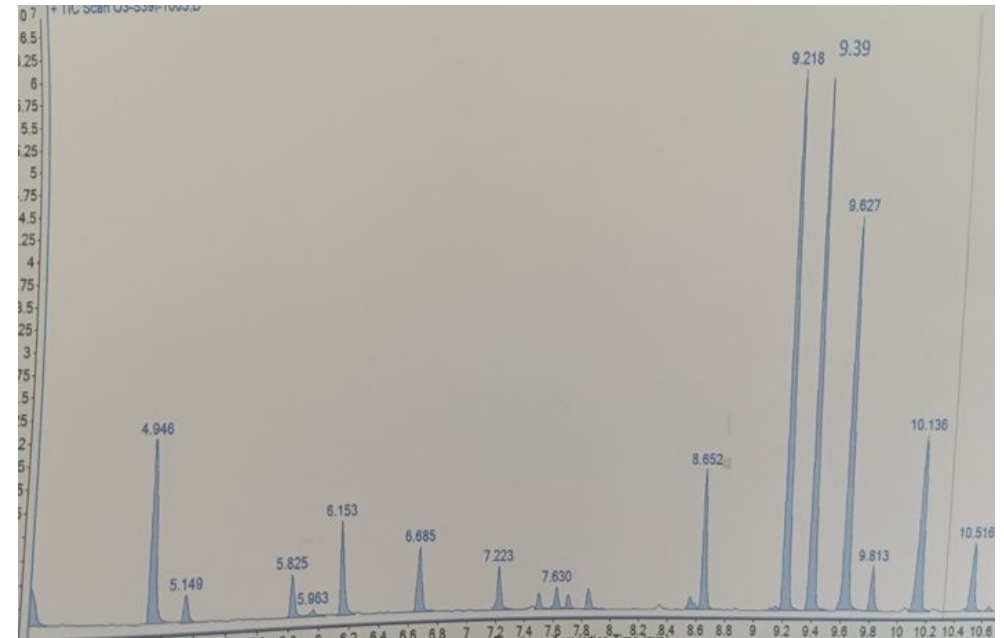
- Lindane (gamma-HexaChlorocycloHexane), other HCH isomers.
- BTEX (Benzene-Toluene-Ethylbenzene-Xylenes), Chlorobenzenes.
- Phenol, Chlorophenols.

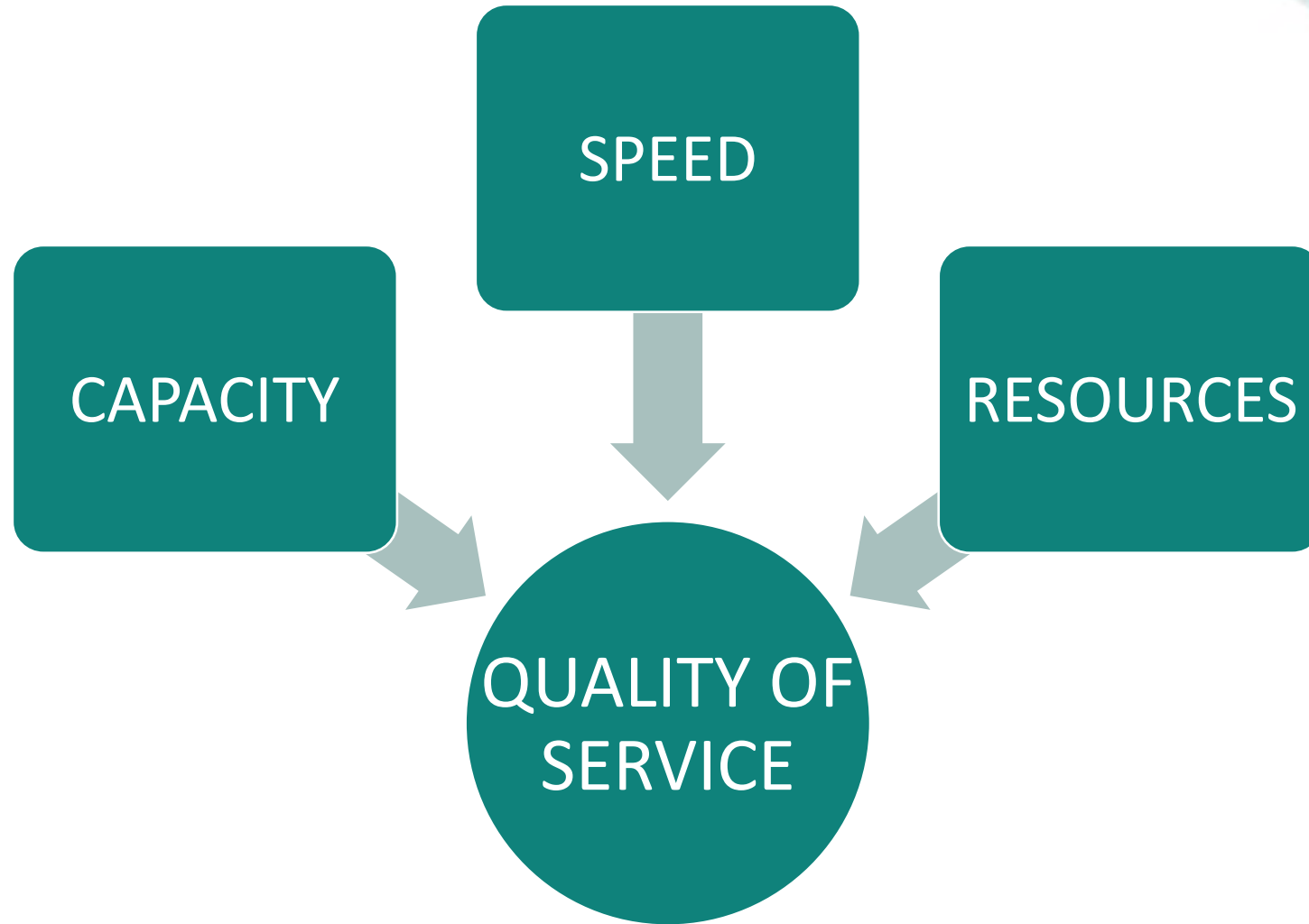
EQUIPMENT:

- ☐ GasChromatograph-Masses-Simple Quadrupole
- ☐ GasChromatograph-Masses-Triple Quadrupole(higher sensitivity, to analyze samples of lower concentrations).
- ☐ GasChromatograph-FID/ECD(for highly concentrated samples).



CHROMATOGRAPHY





THANK YOU FOR YOUR ATTENTION

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