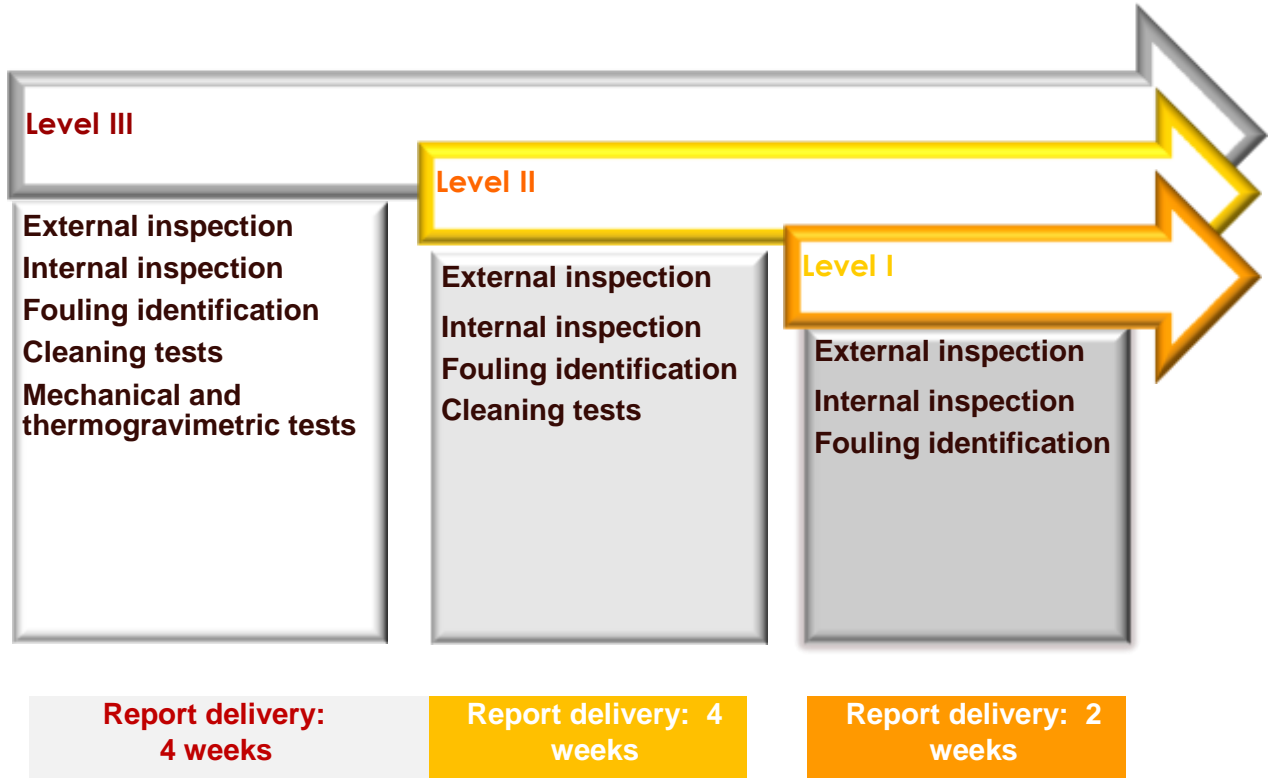




TECHNICAL ASSISTANCE SERVICE UF MEMBRANES AUTOPSY DESCRIPTION



UF AUTOPSY LEVEL DESCRIPTION
HOLLOW FIBER MEMBRANES



Following tests and analyses are carried out during these different levels of UF membrane autopsy (hollow fiber):

- **External inspection:** External housing integrity, presence of particles/deposits, damages, etc.
- **Internal inspection:** Presence of fouling, particles or failures on fibers, etc.
- **Fouling identification:** SEM-EDX analyses, ATR/FTIR analyses.
- **Cleaning tests:** Study of the most suitable cleaning procedure for fouling removal. These tests are carried out by microscopic inspection of the fibers surface after a soaking period in the different cleaners.
- **Mechanical and thermogravimetric tests:** Strain and stress at break, TGA, DSC, etc. Ask GMP laboratory for tests costs.