# Where, Why, What and How to Analyze

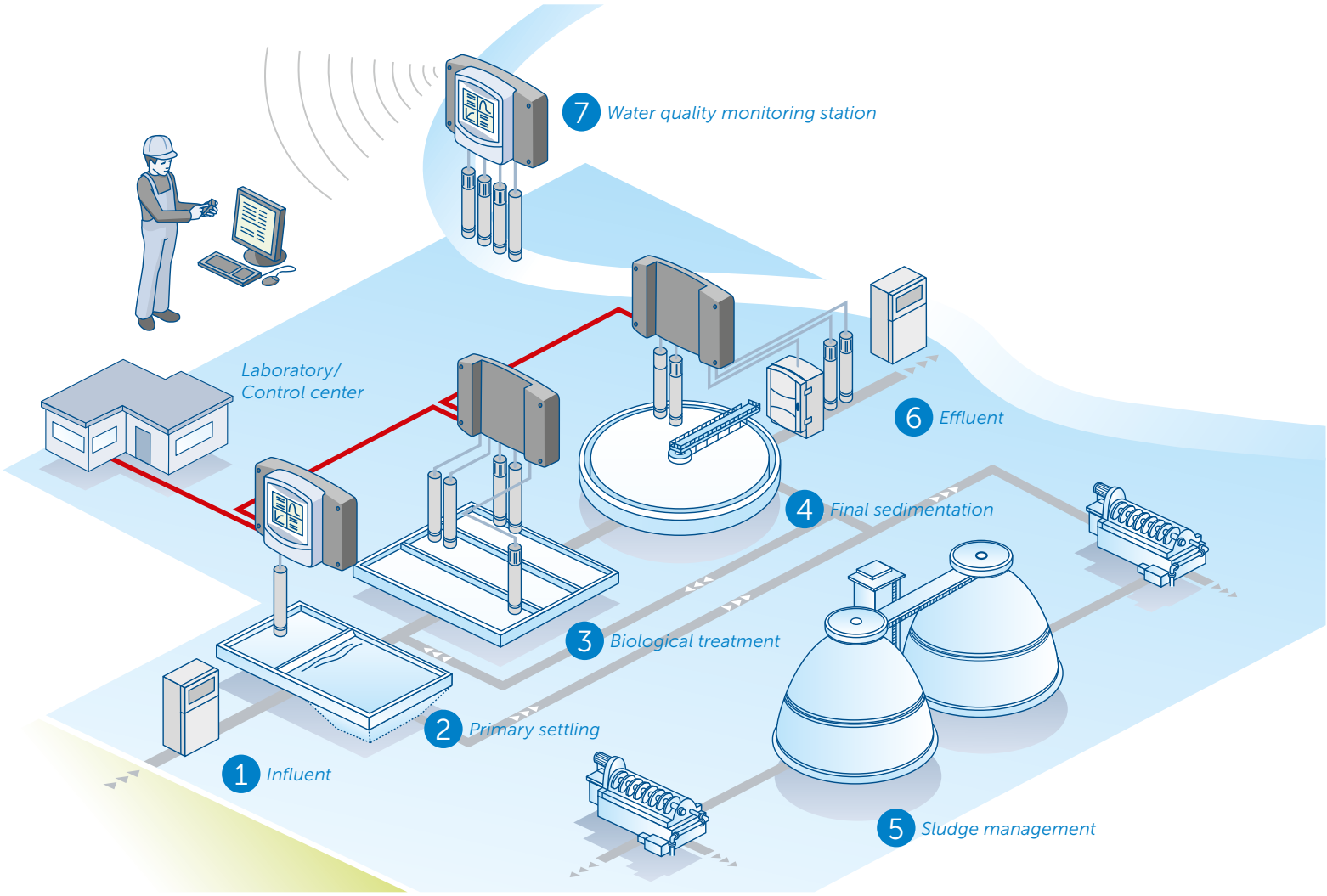
You need to be sure:

- That your treatment process works efficiently and cost-effectively
- That your plant is capable of handling unexpected load peaks coming from production
- That your effluent complies to regulatory requirements.

This means that the analytics processes and products you rely on to make informed decisions must be accurate, reliable, and informative all the time.

The Hach analytics portfolio is designed to give you confidence. From a simple, dedicated meter to on-line measurement or wastewater treatment optimization our solutions are based on years of innovation and a desire to provide the simplest way to results you can trust. Our products, application support, and local service help you achieve:

- Maximized uptime of equipment
- Analytics solutions that give a real return on your investment
- Savings on chemicals and energy costs.




## Real-Time Control Optimization Solutions

Hach RTC solutions allow you to increase process stability and operational efficiency and ensure regulatory compliance. RTC optimization solutions are available for:

- Aeration/nitrogen removal
- Phosphate elimination
- Sludge management.

HACH®
Be Right™

| Where | Why | What* | How |
|---|---|---|---|
| 1 Influent | Early indicator for unusual contaminants potentially harmful for the biological treatment | Conductivity, pH value | ▶● |
| | Basic parameter used for load calculations | Flow | ● |
| | Determination of the organic carbon load | BOD, COD, SAC, TOC | ▶● |
| | Qualified sample for lab analysis | Sampler | ▶ |
| 2 Primary settling | Sedimentation control, sludge pump control (to digester) | Sludge level | ● |
| 3 Biological treatment | Monitoring and controlling the efficiency of the biological treatment | Ammonium, nitrate, dissolved oxygen | ▶●■ |
| | Monitoring and controlling ortho-phosphate providing input for phosphate elimination control | Phosphate, ortho | ▶●■ |
| | Ensuring optimal sludge age for nutrient elimination | Suspended solids | ▶●■ |
| | Ensuring optimal conditions for nitrification and denitrification | Organic acids | ▶ |
| | | pH value | ▶● |
| | Ensuring optimal conditions for nitrification and denitrification in anaerobic reactors | Acid capacity | ▶ |
| 4 Final sedimentation | Sedimentation control, sludge pump control (return to biological treatment or waste to digester) | Suspended solids | ▶● |
| | | Sludge level | ● |
| 5 Sludge management | Optimal thickening and dewatering performance with minimal polymer dosing; ensuring optimal solids/organic load and biogas production | Suspended solids | ▶●■ |
| 6 Effluent<br>7 Water quality monitoring station | Regulatory compliance, monitor treatment process performance and ensure compliance with legal limit values | Ammonium | ▶● |
| | | Conductivity | ▶● |
| | | Flow | ● |
| | | Nitrate | ▶● |
| | | Organic acids | ▶ |
| | | pH value | ▶● |
| | | Phosphate, ortho/total | ▶● |
| | | BOD, COD, SAC, TOC | ▶● |
| | | Turbidity | ▶● |
| | Qualified sample for lab analysis | Sampler | ▶ |

▶Lab analysis ●On-line analysis
■RTC Optimization solutions

** For additional parameters and solutions, please contact your local Hach representative or visit our website.*

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