



Aalto University
School of Engineering

Modelling and Control of Water and wastewater treatment processes

WAT - E2130 Project work instructions

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Client & consultant meeting 1 (1/2)

- **Contact your pair in this exercise. The pairs will be formed according to the project themes (1&2, 3&4 etc)**
- **Study the material about Porvoo Klaukkala WWTP (in Project work folder)**
- **Think about your project theme – what is the challenge? What are the wanted improvements?**
- **Think about your pair’s project theme – what is the challenge? What are the wanted improvements?**
- **Book a meeting time with your pair before April 29th Thursday at noon (1 – 2 hours)**
- **During the meeting discuss about the themes. Prepare, plan and rehearse for the recording where you will take the role of consultant and your pair will take the role of Klaukkala plan manager.**

Client & consultant meeting 1 (2/2)

- Imagine a situation where you are a consultant and a potential client from Nurmijärvi approaches you with a process question/challenge. The client is interested in using modeling to solve the problem.
- This imaginary situation could be e.g. a phone call between you (consultant) and your pair (client). The consultant explains how he/she would model the process. The client asks questions and checks that the solution is suitable for him/her.
- As the outcome of your meeting you should make a recording of this first discussion (about 10 min). You can use e.g. Teams or Zoom.
- Remember to change roles and discuss and prepare the recording about both themes.
- Submit both recordings (or the link) to MyCourses
- During your meeting collect unclear points and questions for Klaukkala people!

Client & consultant meeting 2

- **The second meeting's goal is to practice the presentation and receive peer feedback of it before the real presentations.**
- **Book 1 – 2 hour meeting for this practice.**
- **No outcome to be submitted from this meeting!**

Presentation

- **15 minutes**
- **Content:**
 - Objective of the modelling and control
 - Model structure/control strategy
 - Simulated conditions
 - Main results
 - Benefits of modelling/control
 - Challenges in practical implementation of modelling/control approach

After the presentation 5 minutes for questions and comments!

Grading 1 – 5
1/3 of the project work (overall weight 40%)

Written report

- **5 – 10 pages**
- **Content:**
 - Objective of the modelling/control
 - Model structure/control strategy
 - Simulated conditions
 - Main results
 - Benefits of modelling/control
 - Challenges in practical implementation of modelling/control approach

Grading 1 – 5

2/3 of the project work (overall weight 40%)

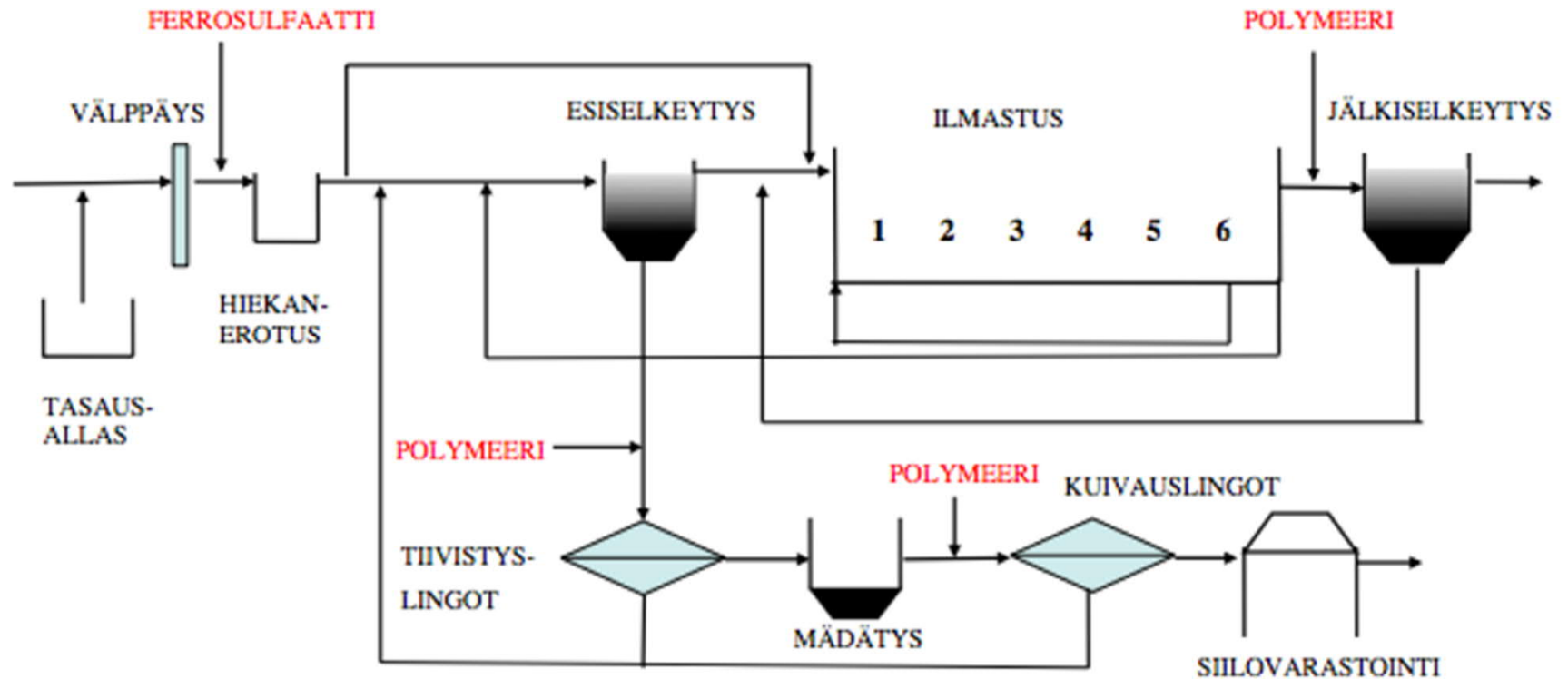
Klaukkala WWTP

- **PE 37600**
- **Significant amount of industrial wastewaters treated with municipal wastewater**
- **Main industrial load from Altia (alcohol), Roal (enzymes), Premix (plastics), Teknos (paints) and Onni Forsell (container cleaning)**

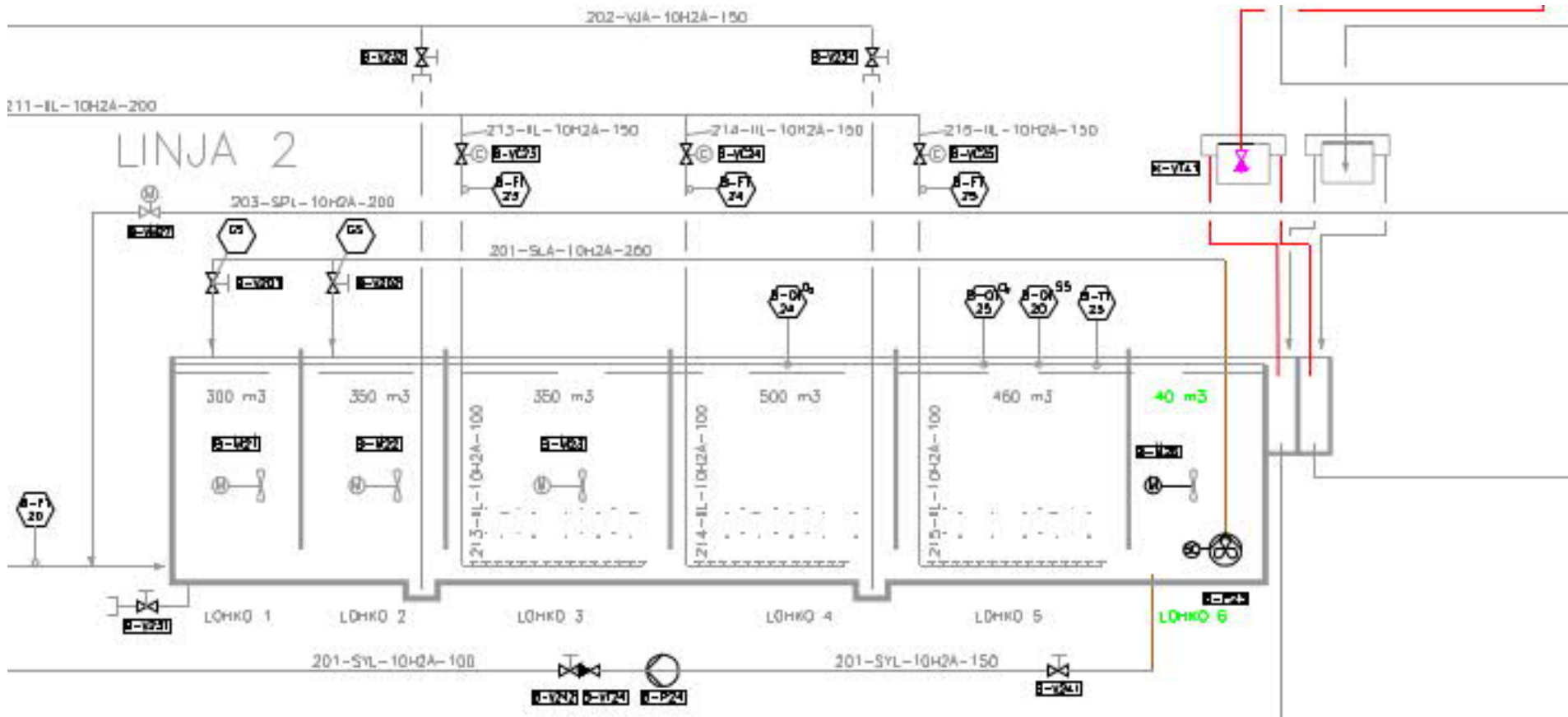
Process steps:

- **Pretreatment (screening, sand removal) → not included in modelling**
- **Flow equalization**
- **Primary clarifier**
- **Activated sludge process**
- **Anaerobic digestion for sludge**

Klaukkala process



Aeration basins



Secondary settlers and effluent analyzers

