

Qconcepts - Housing solution

INTRODUCTION

- We are a multidisciplinary team of seven students from three different backgrounds: Industrial Engineering & Management (IEM), Mechanical Engineering (ME), and Electrical & Electronic Engineering (EEE). Together we will provide advice regarding Qconcepts current plans to transition to a larger production facility.
- The main challenge we tackled was designing a new, optimized layout for the facility specifically the production area with a strong focus on improving workflow efficiency and supporting future scalability. This challenge was especially exciting for us because it allowed each discipline to contribute from its own expertise, while learning to integrate our knowledge into one cohesive solution. It also offered us a real-world opportunity to make a tangible impact on a growing company.

JOURNEY & LEARNINGS

- Our journey began by mapping out the current situation: how Qconcepts operates today, what machines and processes are in use and what limitations exist in the current facility. From there, we brainstormed possibilities for the new environment.
- Smart moves included conducting interviews with company staff, creating detailed layouts, and performing workflow analyses. These helped us understand both technical constraints and human factors. However, we also faced setbacks, some machines lacked technical documentation, certain information took long to gather and aligning the needs of three disciplines initially proved challenging. But through open communication, frequent check-ins, and structured task division, we were able to maintain momentum and move forward with the project.

OUTCOME & IMPACT

- The final outcome is a complete future-ready layout design for the new production facility of Qconcepts. This includes a detailed floor plan, a recommendation for new machinery, changes to machinery and equipment placement, considerations for energy and material flow and opportunities for automation and sustainability. What makes our solution unique is its integrated,

cross-disciplinary approach: technical, logistical, and operational elements are all combined together.

- The ripple effect of our work could be significant for Qconcepts. Our proposed layout and approach can serve as a blueprint for Qconcepts upcoming relocation, guiding the company through the transition with a clear, well-structured plan. It not only supports a more efficient facility, but also offers increased flexibility, scalability and sustainability for the company.
- What we are most proud of is how well we managed to integrate our different perspectives into one coherent plan, even though that wasn't always easy. We look forward to sharing our insights and hearing feedback from both professionals and fellow students.

