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Improving Cleanability by Changing Fish Processing Equipment Design

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Abstract : The design of fish processing equipment greatly impacts how easy the cleaning process for the equipment is. This is a critical issue in fish processing, as cleaning of fish processing equipment is a task that is both costly and time consuming, in addition to being very important with regards to product quality. Even more, poorly cleaned equipment could in the worst case lead to contaminated product from which consumers could get ill. This paper will elucidate how equipment design changes could improve the work for the cleaners and saving money for the fish processing facilities by looking at a case for product design improvements. The design of fish processing equipment largely determines how easy it is to clean. “Design for cleaning” is the new hype in the industry and equipment where the ease of cleaning is prioritized gets a competitive advantage over equipment in which design for cleaning has not been prioritized. Design for cleaning is an important research area for equipment manufacturers. SeaSide AS is doing continuously improvements in the design of their products in order to gain a competitive advantage. The focus in this paper will be conveyors for internal logistic and a product called the “electro stunner” will be studied with regards to “Design for cleaning”. Often together with SeaSide’s customers, ideas for new products or product improvements are sketched out, 3D-modelled, discussed, revised, built and delivered. Feedback from the customers is taken into consideration, and the product design is revised once again. This loop was repeated multiple times, and led to new product designs. The new designs sometimes also cause the manufacturing processes to change (as in going from bolted to welded connections). Customers report back that the concrete changes applied to products by SeaSide has resulted in overall more easily cleaned equipment. These changes include, but are not limited to; welded connections (opposed to bolted connections), gaps between contact faces, opening up structures to allow cleaning “inside” equipment, and generally avoiding areas in which humidity and water may gather and build up. This is important, as there will always be bacteria in the water which will grow if the area never dries up. The work of creating more cleanable design is still ongoing, and will “never” be finished as new designs and new equipment will have their own challenges.

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