# Literature Review on Digitization of Conveyor Belts

| Type | Research Project (MP/BP) |
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| Credits | 8 CPs |
| Start date | 01.11.2023 |

## Description

In this project, your task is to conduct an in-depth literature review on digitizing conveyor belts. The goal is to explore existing research, studies, and projects related to the digitization of conveyor belts, focusing on identifying the problem statements, objectives, and methods employed in each case. By surveying the landscape of previous work, you'll gain insights into various approaches taken to digitize conveyor belts and enhance their efficiency.

## Prerequisites

- Research Skills: The student should have a strong foundation in conducting research, including the ability to search for academic papers, extract relevant information, and critically analyze the content.
- Literature Review Understanding: Familiarity with the literature review concept is essential. The student should understand the purpose of a literature review and how to synthesize information from multiple sources.
- Writing Skills: The student should be able to write concise and coherent summaries that effectively communicate the problem statements, objectives, and methods described in the papers.

## Tasks

1. Topic Exploration: Understand the scope of the project: digitization of conveyor belts.
2. Research Paper Selection: Search for academic papers, research studies, and industrial projects related to conveyor belt digitization.
3. Problem Identification: Read each selected paper thoroughly to understand the specific problems.
4. Methodology Analysis: Analyze the methodologies, techniques, and approaches employed in each paper to achieve the digitization objectives and also Understand how sensors, data collection methods, automation, and integration were used.
5. Summarization: Create concise and clear summaries for each paper, highlighting the problem, objectives, and methods used.

6. Source Documentation: Properly cite and reference the sources of the selected papers using a recognized citation style (e.g., APA, IEEE).
7. Presentation: Prepare a presentation summarizing the key findings from the literature review.

# Resources

1. P Bortnowski, W Kawalec, R Krol, M Ozdoba (2022). Types and causes of damage to the conveyor belt – Link.
2. H Wilts, BR Garcia, RG Garlito, LS Gomez, EG Prieto (2021). Artificial intelligence in the sorting of municipal waste as an enabler of the circular economy- Link.
3. YS Deng, CY Xiao, N Shi (2009). Research of the semicircle trench belt conveyor- Link.
4. E Gil, D Delgado, R Aragues (2018). Virtual lab for online learning in industrial automation- Link.
5. R Johansson, S Harris (1995). An enclosed belt conveyor which can run round sharp corners- Link.
6. WF Zhang, CS Wang, FX Zhang (2014). Study on tube formation mechanism and lateral stiffness testing method of the tubular conveyor belt- Link.
7. X Liu, Y Zhang, H Jing, L Wang, S Zhao (2020). Ore image segmentation method using U-Net and Res_Unet convolutional networks- Link.
8. MA Selver, O Akay, F Alim, S Bardakci (2011). An automated industrial conveyor belt system- Link.
9. N Boysen, D Briskorn, S Fedtke (2019). Automated sortation conveyors- Link.
10. G Lodewijks (2004). Strategies for automated maintenance of belt conveyor systems- Link.
11. G Reinhart, J Werner (2007). Flexible automation for the assembly in motion- Link.
12. GA Taher, MAR Yousuf Howlader (2014). Automation of material handling with bucket elevator and belt conveyor- Link.
13. T Kozlowski, J Wodecki, R Zimroz, R Blazej (2020). A diagnostics of conveyor belt splices- Link.
14. N Keerthipriya, RS Lalithaa, S Ramapriya (2015). PLC based industrial conveyor automation and monitoring- Link.

# Contact

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