OSME Showcase:
Visibility of Engine Block Manufacturing

In March 2020 Kilkanen, a Leinolat Group company, acquired the engine block machining center and engine block manufacturing from Wärtsilä. This meant that Kilkanen moved its operations to a new factory located in Vaskiluoto in the immediate vicinity of Wärtsilä's Sustainable Technology Hub and intensified its collaboration with Wärtsilä to improve productivity.

The installation of the machining center was completed in 2022. This created a good opportunity to deepen the collaboration between the two companies and to investigate **how the virtual visibility of the engine block manufacturing process could be improved.**

The companies found that the use of a **shared digital, scalable, and multi-instance platform** for execution management on the shop floor (Dot connector) improved the **process transparency in both directions**. Reviewing the high-level process and iteratively detailing each step along the way through lessons learned during manufacturing collaboratively has been a journey full of learnings for both Wärtsilä and Kilkanen. After pre-work, the engine block can be taken into controlled use at Kilkanen with instructions through Wärtsilä's Dot connector platform while managing issue reporting and follow-ups in real time.

The **next step** is to develop the solution and **add automated features** enabling the automatic creation of new orders/workpieces in Dot connector for the partners having an intermediate automation in meantime that order process is reviewed and improved. This will improve the process efficiency and response times, increase accuracy, quality, and security, and enable additional resources to focus on value adding work as well as foster the mindset of continuous improvement of material and flow of information.

The **overall benefits** are an increased **reduction in works-in-progress** within the ecosystem of engine block manufacturing, an increase in the **utilization of available capacity** and a better overall **visibility** of product status. Through this use case, the OSME community gained an understanding of how to promote adaptive work processes on the shopfloor as well as in planning. The architectural modelling of OSME has seen benefits from this case work and it has been a great example of Wärtsilä's philosophy to promote openness in the community to other partners within the ecosystems.

Impacts:

- **Expected WIP reduction in ecosystem**
- **Increase capacity utilization**
- **Better overall visibility of product status**

Collaborators: Wärtsilä and Kilkanen

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For more information on the Open Smart Manufacturing Ecosystems initiative, please visit mexfinland.org/osme