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2.1.1 TMCOMAS, AIMEN, and Ziknes Take on MYDAS Project, Where They Aim to Fully Automate and Optimize Oil & Gas Crankshaft Repair Processes

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In a collaborative effort aimed at revolutionizing the repair process within the Oil & Gas sector, AIMEN, TMCOMAS, and Ziknes have embarked on an ambitious project. Their mission? To automate the repair of crankshafts, a crucial component in the industry's machinery. This initiative comes as a response to the industry's growing need for enhanced efficiency and sustainability.

With TMCOMAS specializing in repair services, AIMEN contributing expertise in automation and **cladding process**, and Ziknes offering software development skills, this partnership brings together a formidable array of talents. Their combined efforts will be focused on digitizing and streamlining the repair process, ultimately optimizing efficiency and resource utilization.

The project will unfold in multiple stages, beginning with a pilot-scale implementation at AIMEN's facilities. This initial phase will serve as a testing ground, allowing the team to fine-tune their approach before scaling up to full implementation at TMCOMAS's facilities. By leveraging cladding technology, which has been extensively studied for its effectiveness in component repair, the team aims to redefine industry standards.
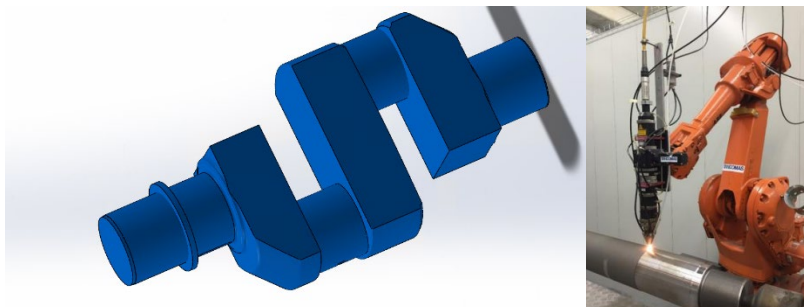

Figure 1. Oil&Gas Crankshaft digitalized and cladding cell in TMCOMAS

At the heart of the project lies the goal of automating the repair process through the integration of **optical sensor technology**. These sensors will enable the digitization of worn components, providing invaluable data that will inform the repair process. By centralizing this data within a single, optimized solution, the team aims to maximize efficiency while minimizing waste.

Figure 2. Point cloud from worn crankshaft

The collaboration between AIMEN, TMCOMAS, and Ziknes marks the beginning of an exciting journey towards innovation in the Oil & Gas sector. By automating crankshaft repairs and introducing new methodologies, they are reshaping the industry landscape. With a shared commitment to efficiency and sustainability, this partnership is poised to make a significant impact.