Upgrading in Mining & Construction Business

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1 PROBLEM

Global trends such as safety awareness, changing legislation, and urbanization, together with the economic situation, force industry to find solutions for extending product lifecycles, while maintaining and improving machine system performance and other properties during the lifecycles. Together with these societal issues, firms are struggling with competitiveness.

Cluster#2 (Metso, RDVelho, VTT) introduces the new Use-it-wisely approach to upgrading rock crushers at customer sites. The higher level problem needing to be solved concerned making upgrade delivery projects profitable and more desirable for customers, manufacturing OEMs and suppliers.

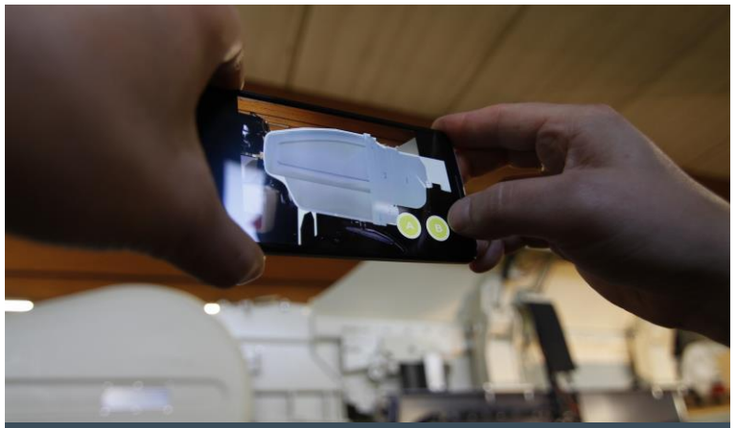
The main recognized and treated bottlenecks were related to knowing the actual status of the upgrade target machine, communication and collaboration with stakeholders, verification and validation of upgrade specifications and an efficient information flow between the stakeholders

2 SOLUTION

Augmented Reality (AR), Virtual Environments (VE), camera based 3D scanning, and cloud based solutions are the selected pieces of technology for solving the bottlenecks.

They enable better communication, collaboration and involvement of all stakeholders, including customers, internal stakeholders, suppliers and partners. They also better enable the planning and discussing of service quality activities.

This study is a proof-of-concept that demonstrates the potential of contributions to business model innovations and game changes for upgrading business.

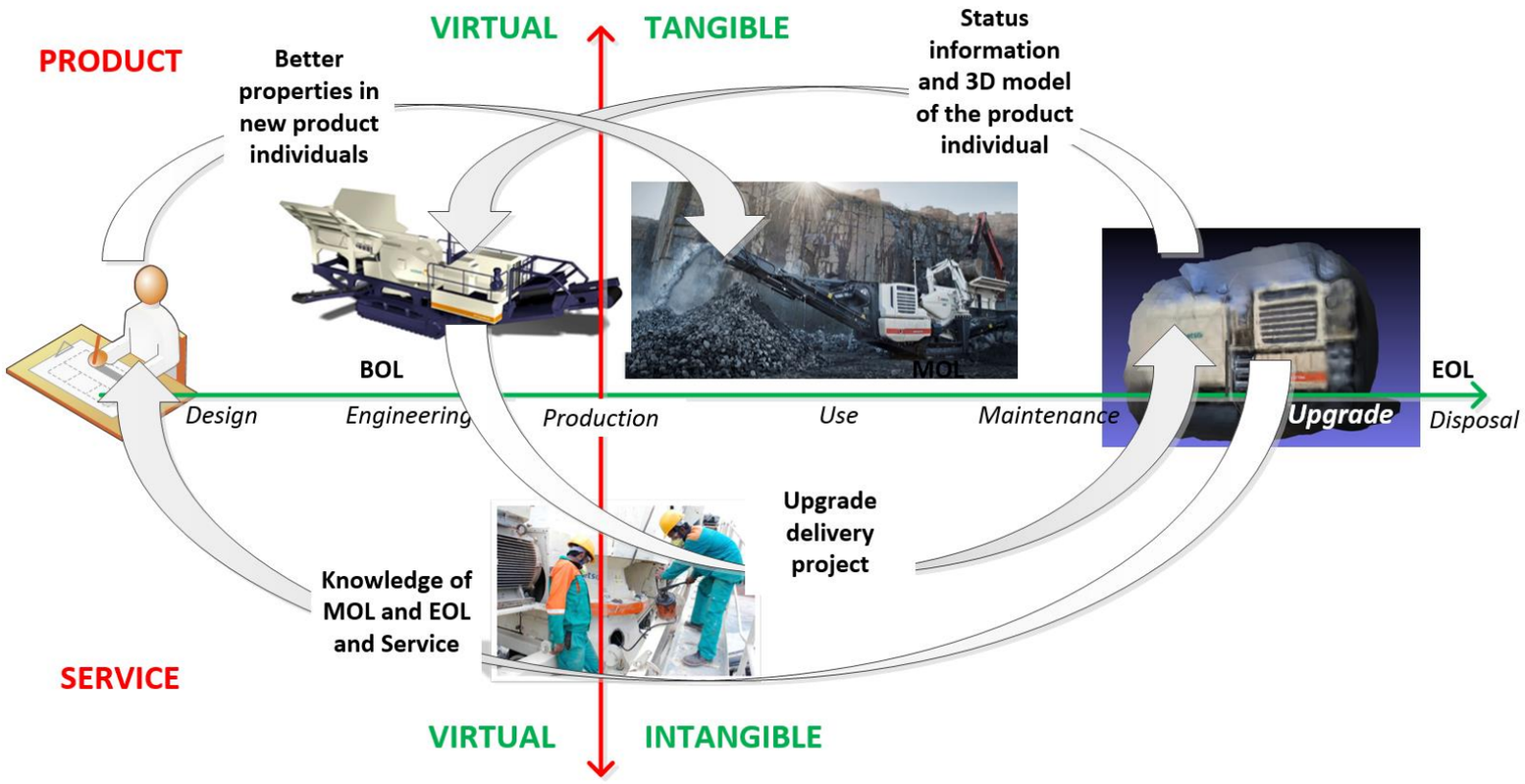


Augmented noise encapsulation upgrade for a Metso Lokotrack

3 LIFE CYCLE

Product life-cycle management (PLM) is the framework for developing and managing product related information, processes and collaboration expanding towards product middle-of-life, end-of-life, and service lifecycle management.

Our UiW approach contributes to the closed-loop PLM and service lifecycle management by providing an approach that utilizes AR, VE and 3D scanning for gathering, analysing and visualizing product lifecycle information. These technologies enable extending the virtual phase of the product lifecycle towards service planning and management.



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