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## EPIQ Machinery: Driven by Innovations

We hear it often to a point that we may find it overused. However, we are immersed in innovations. Innovation is, by definition, a new idea, product, method that benefits people and generates growth. It is all about solving problems. At EPIQ Machinery, what we see are occasions for improvement. Some can be challenging, but it is the fuel

that keeps us moving as we have a passion for challenges.

According to Greg Satell, international keynote speaker, adviser and bestselling author, there are 4 types of innovations: Sustaining innovation, Breakthrough innovation, Basic Research, and Disruptive innovation.

We like to think that we must have a blend of all types to bring balance.

## **Sustaining Innovation: making it better everyday**

EPIQ Machinery's goal is to become the leader in providing global solutions for innovative equipment dedicated to the aluminium, pulp and paper, and rail industries to improve production processes and handling.

Every day, we strive to be better at what we do. This is how the Smart Casthouse Solution came to life. Understanding the pains of our clients, we identified that increasing embedded technologies onto our mobile furnace charging and tending equipment could benefit the end-user. Our Smart Casthouse solution helps producers to monitor the vehicle usage (schedule maintenance, tool usage and consumption rates), and add personnel safety in and out of the equipment.

All operation assisted technologies that can relieve burden for our customers are studied and challenged as part of our R&D product improvement. EPIQ Machinery's global approach is based on better integration of systems that allow us to offer automated solutions with a

balanced ratio of costs, technologies, and efficiency. The integration of new technologies based on artificial intelligence and machine learning, and the electrification of mobile solutions are at the heart of EPIQ's development, in line with the deployment of Industry 4.0, a connected and more sustainable industry.

## **Breakthrough Innovation: the power of a team**

At EPIQ, we are keen to solicit diverse skill domains to help resolve a situation. EPIQ Machinery co-operates with experts and partners from all kinds. Our crossed-sectors expertise helps us to see problems from different angles. This is how we can apply an existing solution from a different industry into the aluminium sector, and vice-versa.

Also, we foster an open and collaborative approach with our customers. We work with them to develop the best technical solution: our customers know their processes and we know how to tie them together for optimized efficiency. This co-operation is vital. One of EPIQ Machinery's daily realities is making its line of products evolve through innovation and integration of new technologies onto equipment. For that, equipment manufacturers need to work closely with clients to go beyond modeling and get valuable data on how new component or equipment behave in real operating conditions, especially in a niche industry such as aluminium production. Testing new equipment and technologies in a plant prior to real commissioning helps define required interventions, impact on production and employees, co-activity with equipment, etc. thus better plan full implementation steps.

Co-operation can be made of more than two companies, a tripartite co-development or other (many OEMs together, OEM and supplier, smelter and OEM, research center and OEM, etc.). For example, EPIQ Machinery has initiated value-added collaborations with other equipment manufacturers. As a result, EPIQ Machinery collaborated in the installation of the very first self-cleaning filtration system EPURA (Propulsa) with an independent carbon cartridge on an EPIQ MECFOR Anode Hauler. To make it happen, few players worked together: EPIQ MECFOR, Propulsa (the inventor of EPURA) and with Rio Tinto through the support of Regional Economic Development (RED) and operations teams.

Another concrete example would be the recent co-creation with Dynamic Concept of a robotic equipment that will improve the maintenance operations of molten metal furnaces for primary and secondary aluminum producers.

## **Basic Research: enhancing knowledge**

All opportunities that can grow knowledge and improve operational practices are considered. Access to research centers is a favorable factor. Despite that, EPIQ Machinery has a solid Engineering Department, with a team connected with a wide network of researchers. On regular basis, we interact with organizations such as National Research Council Canada (CNRC), Consortium de recherche et d'innovation en transformation métallique (CRITM), Centre de recherche industrielle du Québec (iC-RIQ), InnovÉÉ and IVI (Institut du véhicule innovant) in our R&D equipment development.

We have the capabilities to design equipment from scratch and we can also bring a second wind to aging equipment with a complete refurbishment service with possible technological add-ons. However, challenging ideas with researchers helps to accelerate implementation (e.g.: working with IVI for AGV battery type selection and battery pack layout).

Most of all, we like to know that there are real positive outputs from implementing our equipment (e.g.: Anode Slot Cutting Studies saying that deeper and narrower grooves on the underside of the anodes significantly reduce the energy consumption and the carbon footprint during the electrolysis process). For that, we stay close to research centers and universities.

## **Disruptive Innovation: rethinking our model**

Last year the merger of MECFOR and Advanced Dynamics that led to the creation of EPIQ Machinery invited us to revisit our business model. In an essence, this forced us to see how and where we could be innovative. From all time, all within EPIQ is promoting a close-to-customer approach. To make this philosophy a reality, we've asked ourselves how can we get closer to our clients?

We've decided to work on partnership approach to grow our network on the international market. This is how we got into a partnership agreement with Manuloc Group in France and more recently with Taylor Northeast (TNE), a U.S.-based material handling equipment supplier. Both are authorized distributor of EPIQ MECFOR mobile

equipment and spare parts.

In addition, EPIQ Machinery is finalising another strategic partnership with the Spanish group DTA, to offer a complete range of automated guided vehicles. Under the agreement, EPIQ Machinery will distribute DTA equipment for heavy industries in North America. This collaboration also makes it possible to develop electrically powered equipment, a solution halfway between standard conventional equipment and AGVs. EPIQ Machinery will act as a global integrator of material handling solutions and will provide local after-sales technical support in North America.

## **Conclusion**

Through its versatility and the diversity of its activities in strategic industrial sectors, EPIQ Machinery has developed a valuable global vision. Thanks to an excellent understanding of the issues and intrinsic challenges faced by its clients, EPIQ is now positioned as a partner of choice. This is just a beginning; EPIQ Machinery is ramping up innovation to the next level, driven by its passion for challenges.

We are a company capable of supplying and improving your material handling and process flow through the carbon plant, pot room and casthouse.

## 4 STRONG BRANDS TO SERVE THE PRIMARY METALS INDUSTRY

Automation & robotisation,  
Heavy-duty material  
handling, processing  
and packaging

Carbon plant and  
rod shop equipment

Mobile equipment  
solutions, Descaling  
arms, Anode slot  
cutting machines  
(ASCM)

Heavy-duty  
automated guided  
vehicle (AGV)



Passion for challenges