



# DIGITAL OFFSHORE: ADVANCING ADDITIVE MANUFACTURING IN THE MARITIME SECTOR

Canada Makes President Alexandre Bois-Brochu participated in the Digital Offshore conference, contributing to a panel discussion focused on the role of advanced manufacturing and additive technologies in the offshore and maritime industries. The event brought together industry leaders, researchers, and ecosystem partners to explore opportunities for innovation within the sector, with a particular emphasis on collaboration and regional capability development.

## Panel Discussion: Additive Manufacturing in the Offshore Context

The panel featured presentations by Ahmed Elruby from Memorial University, Sean Morgan from Atlantic XL, and Alexandre Bois-Brochu, followed by a moderated discussion led by Ladan Khaksar of AKER. The discussion explored how additive manufacturing (AM) can support offshore operations, with a strong focus on inventory reduction strategies and on-demand production of spare parts.

A key theme throughout the panel was the opportunity to reduce reliance on large inventories of spare parts. The conversation highlighted how many organizations may hold significant volumes of unused inventory for extended periods, and how additive manufacturing can enable a shift toward more agile, digital inventory models. Within this context, AM was positioned as a practical solution for “print-on-demand” parts, helping to reduce storage costs while improving responsiveness to operational needs.

Alexandre emphasized the role of additive manufacturing in maintenance, repair, and operations (MRO), highlighting both laser powder bed fusion (LPBF) for full part production and directed energy deposition (DED) for repair applications. These approaches represent pathways for extending asset life, reducing downtime, and supporting operational efficiency in offshore environments.





## Ecosystem Collaboration and Capability Development

A recurring topic in both the panel and informal discussions was the importance of strengthening connections across Canada's advanced manufacturing ecosystem. Canada Makes' role in strengthening long-term relationships between members and external stakeholders was highlighted as an important enabler of innovation and technology adoption.

Sean and Ahmed engaged in a particularly meaningful discussion around advancing additive manufacturing capabilities in Newfoundland and Labrador. Sean expressed interest in strengthening recognition of AM quality levels within his facility, while also exploring how future collaboration with Memorial University's growing research lab could support these efforts. This dialogue reflects the growing alignment between industry and academia in advancing regional capabilities.



## Fortifying Newfoundland and Labrador's Regional Ecosystem

The conference placed an emphasis on supporting the local ecosystem in Newfoundland and Labrador, with a shared understanding among participants of the importance of advancing the region's industrial capabilities. Conversations throughout the event reflected a collective commitment to strengthening the province's advanced manufacturing and offshore sectors, with collaboration and knowledge-sharing identified as key drivers of progress.



## Engagements and Site Visits

In addition to the conference, Alexandre attended site visits and meetings with Canada Makes members and key ecosystem partners across Atlantic Canada.

At Memorial University, Alexandre met with Ahmed Elruby to explore opportunities for collaboration and to gain insight into the development of a new additive manufacturing research lab. The lab, once fully established, is expected to offer competitive research capabilities in additive manufacturing and may present future opportunities for Canada Makes engagement.

Alexandre also visited Canada Makes member Atlantic XL, where discussions with Sean focused on supporting visibility within the broader maritime and offshore industries. Opportunities were identified to connect Atlantic XL's capabilities with end-users across Newfoundland and the Maritimes, as well as to encourage collaboration with academic partners.

On another member visit with Dalhousie University, Alexandre met with Paul Bishop for a lab tour and to discuss potential collaboration opportunities. The visit also reinforced the importance of ongoing engagement with academia across the region.

Additionally, Alexandre engaged with Polyunity, where discussions highlighted the potential to promote their additive manufacturing technologies in new markets, including Québec. The visit underscored opportunities to support Canada Makes members in expanding their reach and visibility across Canada.



## Industry and Ecosystem Connections

Throughout the event, Alex engaged with a range of industry and ecosystem stakeholders, including representatives from the Ocean Supercluster, Lloyd's Register, and ExxonMobil. These conversations opened the door to potential collaboration opportunities and future membership engagement.



## Conference Outcomes and Looking Ahead

The Digital Offshore conference provided a valuable platform for engagement, allowing Canada Makes to strengthen relationships across industry, academia, and innovation partners. The event reinforced the growing interest in additive manufacturing as a strategic enabler for offshore and maritime applications, particularly in the areas of MRO, inventory optimization, and digital manufacturing.

Moving forward, Canada Makes will continue to engage with the connections made at the conference, supporting collaboration opportunities, membership development, and the advancement of additive manufacturing across Canada's offshore and maritime industries.



## Acknowledgements

Canada Makes would like to thank the organizers and participants of the Digital Offshore conference, as well as all the individuals who contributed to the discussions and meetings throughout the event. Special thanks are extended to Dave Finn for inviting Canada Makes to participate in the conference, as well as to the other panel participants and ecosystem partners for their collaboration and continued support in advancing Canada's additive manufacturing landscape.

