



**NUCLEAR AMRC**  
ADVANCED MANUFACTURING RESEARCH CENTRE

**CATAPULT**  
High Value Manufacturing



The  
University  
Of  
Sheffield.

# Advanced cooling with carbon dioxide and MQL

Wednesday  
5 May 2021  
11am–1pm

In our fifth annual cooling seminar, the Nuclear AMRC invites you to explore the state of the art in carbon dioxide coolant in advanced machining for the most demanding industries and applications.

For 2021, we are moving wholly online to protect everyone's health and reach a wider audience.

The Nuclear AMRC is leading research into supercritical CO<sub>2</sub> cooling for challenging machining tasks, and combining it with minimum quantity lubricant (MQL) techniques for optimum performance.

The technology has been shown to reduce tool wear compared to traditional oil-based coolants, but needs further R&D to optimise cutting conditions for the most demanding tasks.

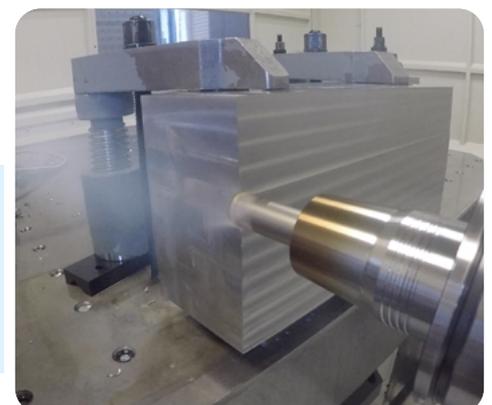
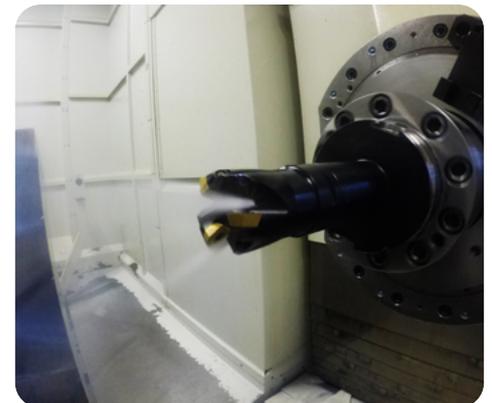
This virtual forum will bring together industrial users with researchers to discuss the opportunities and challenges of CO<sub>2</sub> coolants, and share the latest research and best practice. See over for the full agenda.

To register, or for more information:

 [register.gotowebinar.com/register/5957531545736139535](https://register.gotowebinar.com/register/5957531545736139535)

 [events@namrc.co.uk](mailto:events@namrc.co.uk)

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# Nuclear AMRC event

## Advanced cooling with CO<sub>2</sub> and MQL

### Agenda

Wednesday 5 May 2021

11.00	<b>Welcome and introduction</b> Carl Hitchens, Nuclear AMRC
11.05	<b>Machining of advanced engineering materials using CO<sub>2</sub>-based lubri-cooling techniques</b> Dr Nikolaos Tapoglou, AMRC Followed by Q&A
11.25	<b>PITCO2C: process improvement through CO<sub>2</sub> cooling</b> Paul Wildgoose, Nuclear Energy Components Yunok Craze-Romero, Nuclear AMRC Followed by Q&A
11.50	<b>MQL – effects of oil nature and tool design on tool performance</b> Dr Antoine Morandau, Advanced Assisted Manufacturing Solutions Followed by Q&A
12.10	<b>Supercritical CO<sub>2</sub> applications: simple and safe tool clamping</b> Andreas Näf and Michael Mies, REGO-FIX Followed by Q&A
12.35	<b>Robotic drilling of composite stacks with through-tool delivery of liquid CO<sub>2</sub> and MQL</b> Luka Sterle, University of Ljubljana Followed by Q&A
12.55	Wrap-up and closing questions

#### Joining the webinar

After registering, you will be sent an invitation to join this event on the GoToWebinar platform. Please make sure that your computer or mobile device meets the technical requirements of the platform ([support.goto.com/webinar](https://support.goto.com/webinar)). During the webinar, you can ask questions using the chat function.



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For more about how the Nuclear AMRC can help your business:

 [namrc.co.uk](https://namrc.co.uk)

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