

## PRESS RELEASE

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### **Midaz demonstrates world's highest power diode-pumped Alexandrite laser with exceptional efficiency & high energy**

Midaz has successfully completed a Technology Research Programme awarded by ESA/ESTEC for the design and construction of a highly efficient diode-pumped Alexandrite laser with performance capabilities unmatched by existing Nd:YAG lasers. Midaz Alexandrite laser has delivered high pulse energy (>23mJ @ 100Hz) providing exciting prospects for Satellite-Based Remote Sensing.

Professor Michael Damzen (CTO) said "What is remarkable about this laser technology demonstration is its exceptional high efficiency of greater than 31% slope efficiency (equivalent to > 40% with respect to absorbed pump power) in a system still with considerable scope for further optimisation towards 60% efficiency. The demonstrated efficiency is already an order of magnitude higher than lamp-pumped versions of the technology but the real significance is the opportunity diode-pumped Alexandrite offers to supersede Nd:YAG as the preferred laser source for space-based Lidar remote sensing". Hovemere Ltd, a leader in the development of Lidar systems, has been subcontractor to Midaz providing advice for Lidar system aspects.

Additional benefits such as wavelength tuning and portability offer great scope for other sensing applications in commercial and defense markets in the near IR (700-860nm), UV (350-430nm) and Deep UV (233-287nm; 175-215nm). Industrial and scientific markets include microscopy for biomedical imaging solutions and laser-induced fluorescence spectroscopy for analysing materials at the molecular level. Diode pumped Alexandrite can be used in scientific research as a high energy amplifier for Ti:sapphire lasers.

Midaz [www.midaz.co.uk](http://www.midaz.co.uk) London, UK has developed and manufactured DPSS products including lasers with very high pulse repetition rates and high gain, single stage, amplifier modules. Alexandrite lasers can create additional product solutions for the Midaz product family.

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#### **Further information:**

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**Photo: Midaz diode pumped Alexandrite laser demonstrator**