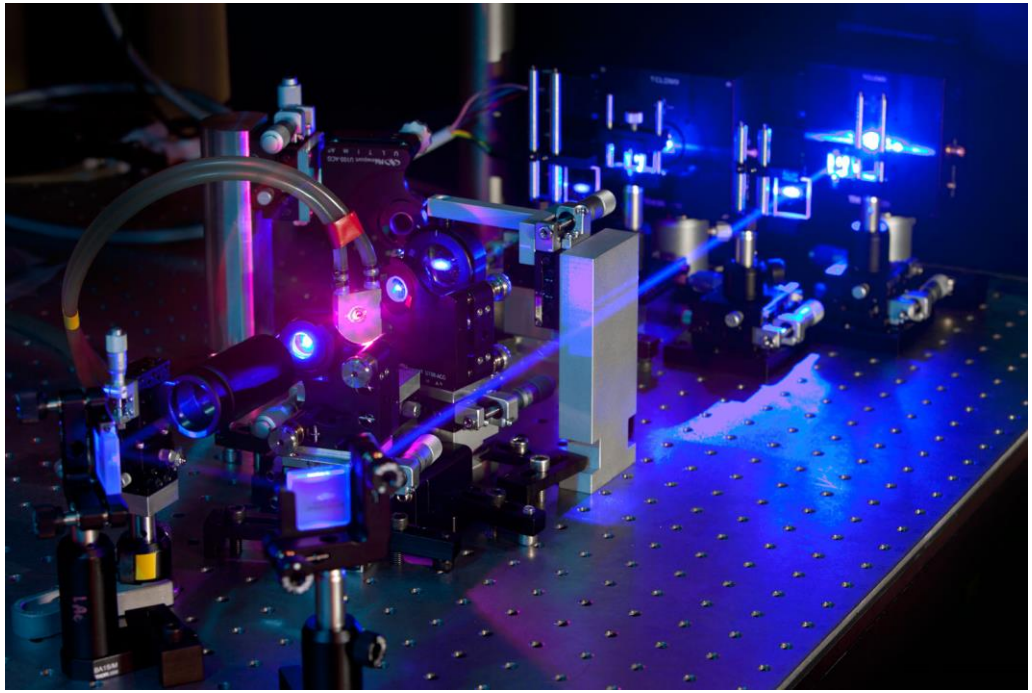
Fraunhofer Centre for Applied Photonics

Dr David Armstrong, Fraunhofer CAP, EPIC Online Technology Meeting on Photonic Systems for High End Research

Fraunhofer UK

Fraunhofer Centre for Applied Photonics: Intro

- A UK research and technology organisation, RTO
- UK not for profit Ltd company
- Legally independant affiliate of Fraunhofer Society – Europe‘s leading independent research org.
- Providing professional R&D services
  - Sources (Lasers)
  - Systems (Instrumentation)



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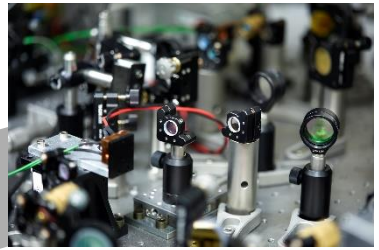
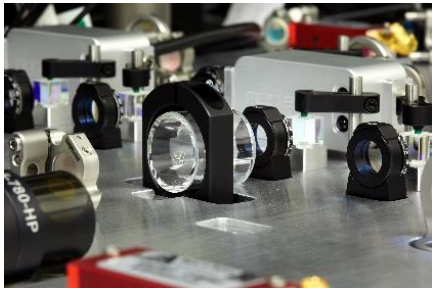
From this: laboratory bench-top



To this: Product

TRL 1 TRL 2 TRL 3 TRL 4 TRL 5 TRL 6 TRL 7 TRL 8 TRL 9

To this: engineered Proof of Concept



Fh-CAP as a delivery partner

*TRL levels indicative only

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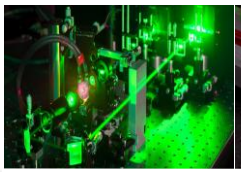
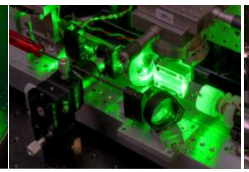
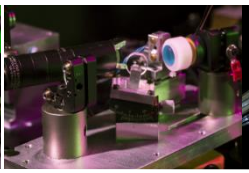
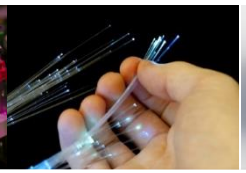
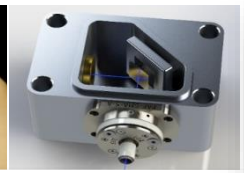
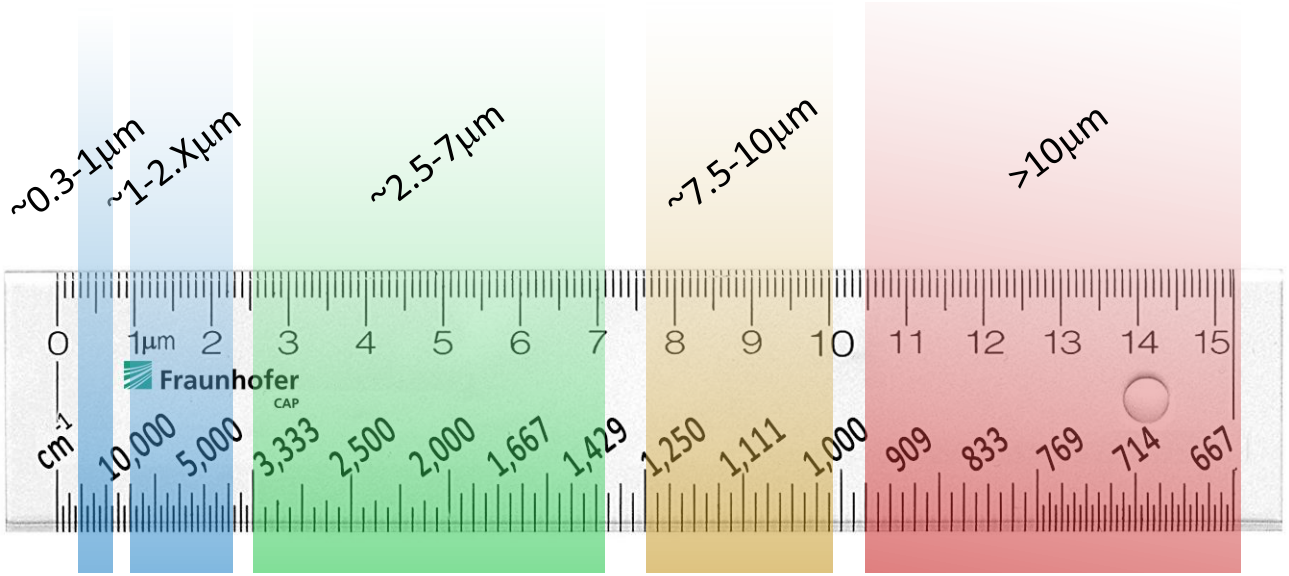
Research – Engineering - Design

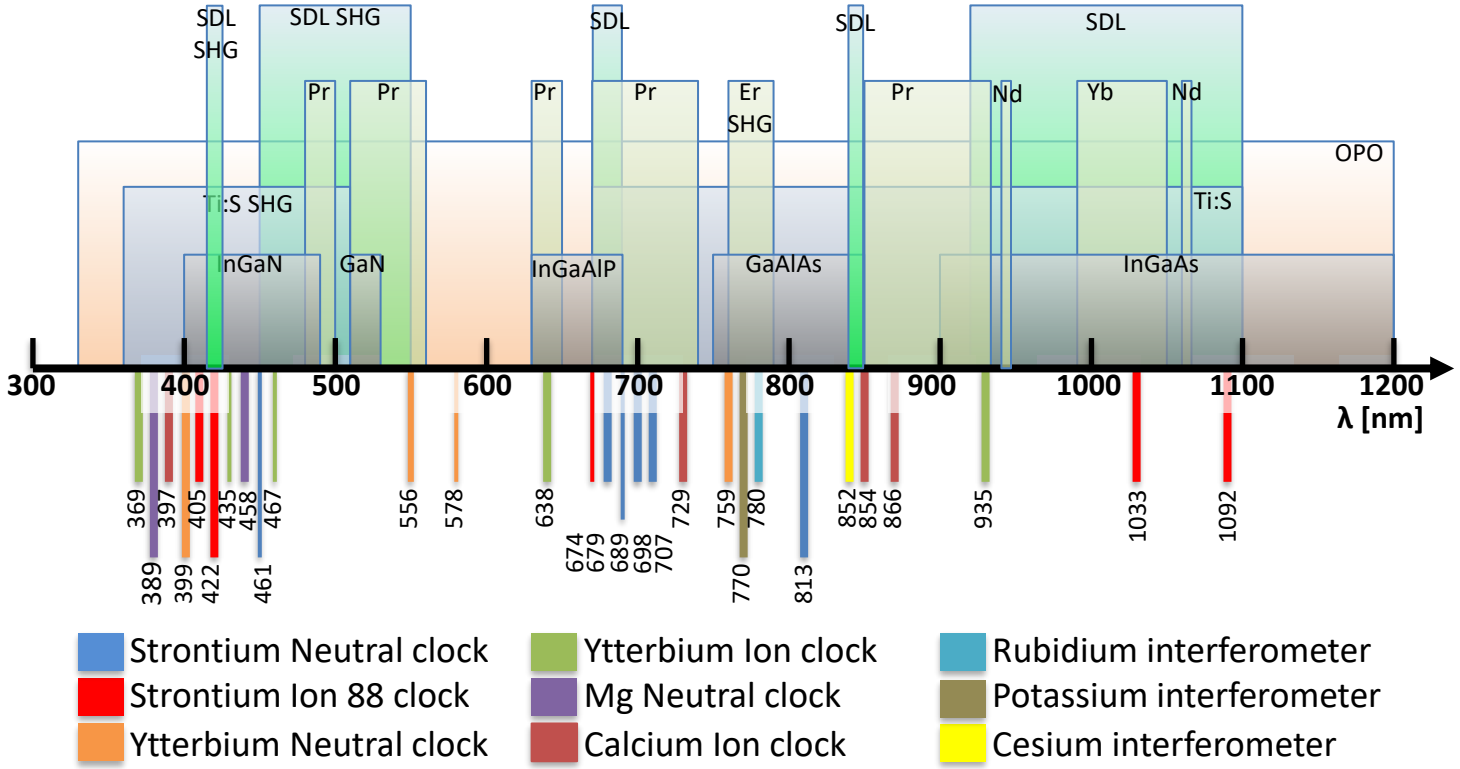







SOLID-STATE LASERS	MID-INFRARED LASERS	SEMICONDUCTOR DISK LASERS	INTEGRATED OPTICS	MODEL, DESIGN, PROTOTYPE	INSTRUMENTATION
Fraunhofer Centre for Applied Photonics designs, develops and prototypes laser systems for real-world applications in compact and robust packages that deliver excellent performance.	With many competing technical routes to generating challenging infrared wavelengths, Fraunhofer CAP's expertise (across multiple platforms) allows us to choose the best methods for your applications.	Achieve the exact wavelength required for your application, with very high quality beam and Watt-level outputs across a very broad spectral range - UV to mid-IR - with semiconductor disk lasers.	Fibre lasers, distributed fibre optic sensors, waveguide lasers & devices, single-substrate component and functionality integration, including microfluidics and the application of such for a spectrum of use scenarios.	The optical, thermal, mechanical and electronic performance of systems are rigorously modelled and designed within agreed parameters to ensure the best possible outcomes - particularly for higher risk projects.	The incorporation of detectors, electronics, rugged opto-mechanical designs, signal processing and interfacing with laser and optics technical expertise, to produce practical instrumentation, measurement and detection systems.

Laser Source Development – UV to Far IR



Laser sources required: Quantum Research



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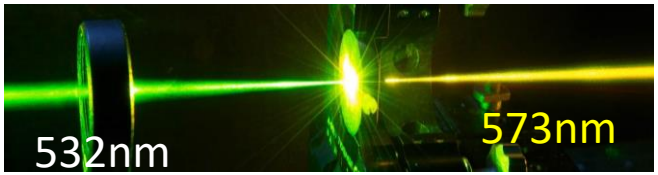
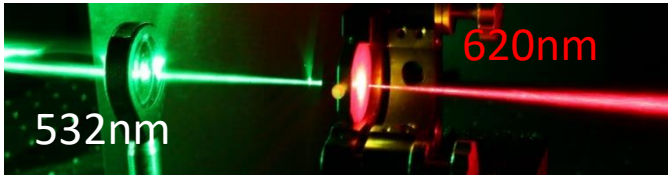
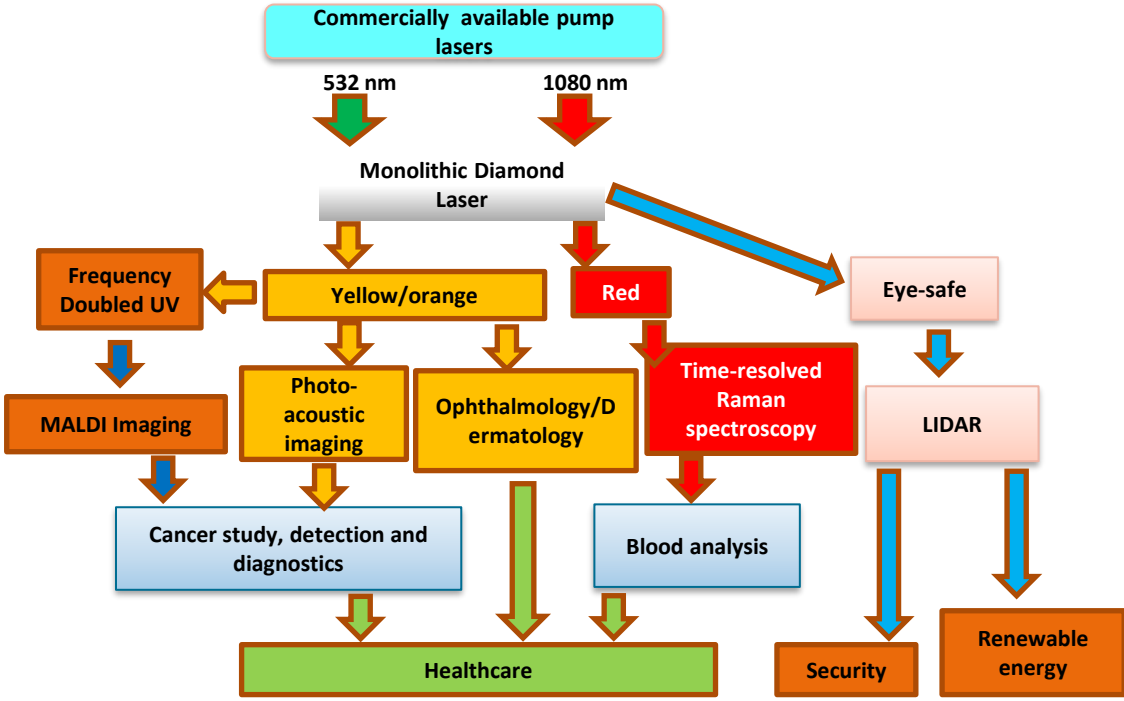
Monolithic Diamond Raman Laser





Sean Reilly, et.al. Opt. Lett. 40, 930 (2015)

Vasili G. Savitski, et.al. IEEE JQE 54, 1700408 (2018)



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We can partner in a number of ways

Please contact
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