

## SWIFT™

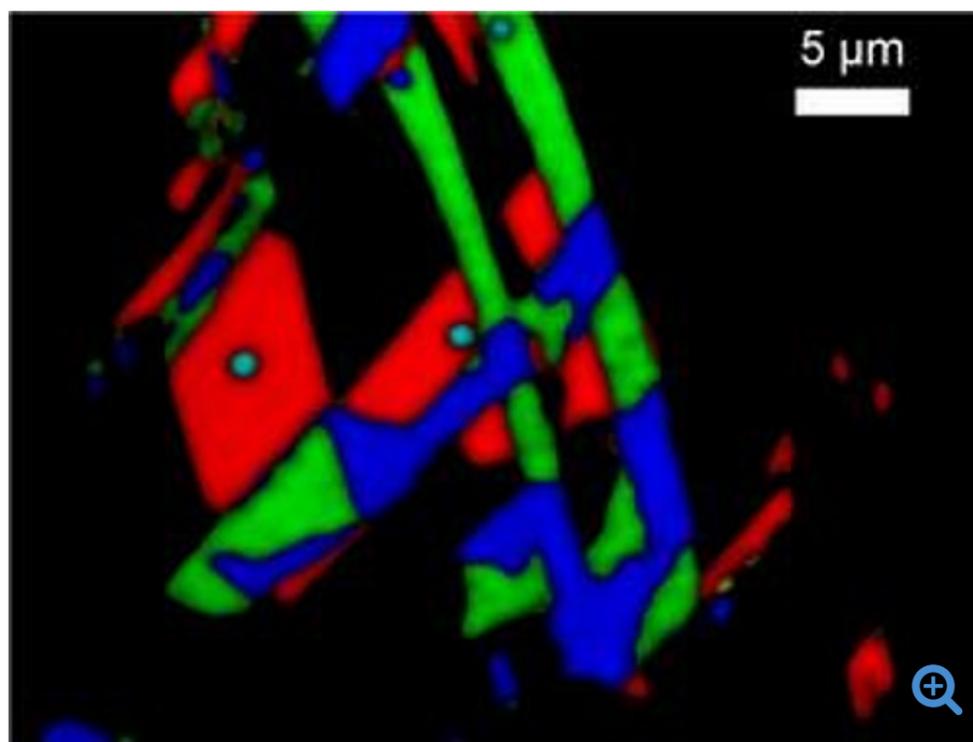
### Ultra Fast Raman Imaging for detailed Raman maps

SWIFT™ ultra-fast Raman imaging allows detailed Raman maps can now be acquired on second/minute timescales with integration times down to 1ms and below. SWIFT™ retains the true confocal performance of the HORIBA Scientific Raman systems, thus ensuring optimised spatial resolution for analysis of small particles and thin layers

**Segment:** [Scientific](#)

**Division:** [Raman Spectroscopy](#)

**Manufacturing Company:** HORIBA France SAS



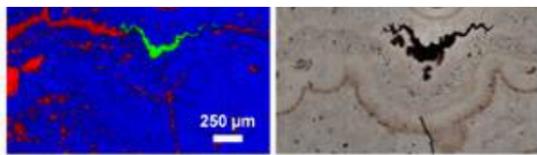
*Second generation SWIFT ultra-fast Raman imaging, showing real time hyperspectral Raman image acquisition on a structured semiconductor device, with 40,200 spectra acquired in less than 50 seconds.*

Fast Raman imaging offers many advantages to the user:

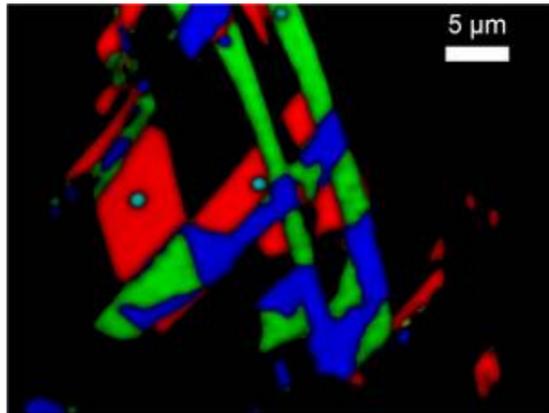
- Acquisition times reduced by orders of magnitude without compromise in image quality.
- Macro areas (centimeters) can now be analysed with micro resolution.
- High definition megapixel Raman images are now possible in a single fast Raman map, providing both a broad overview and detailed high resolution work in a single experiment.
- Data rich [3D confocal volume](#) images can be acquired in realistic timescales, allowing a sample's internal structure to be interrogated.
- Time resolved Raman imaging – with a full image acquired in just a few seconds, chemical reactions such as polymer curing occurring on minute/hour timescales can now be imaged.

SWIFT™ is suitable for use with all lasers from UV through to near infra-red. It is compatible with all HORIBA Scientific systems, either at time of purchase, or as a retro-fittable upgrade (additional or replacement parts may be required).

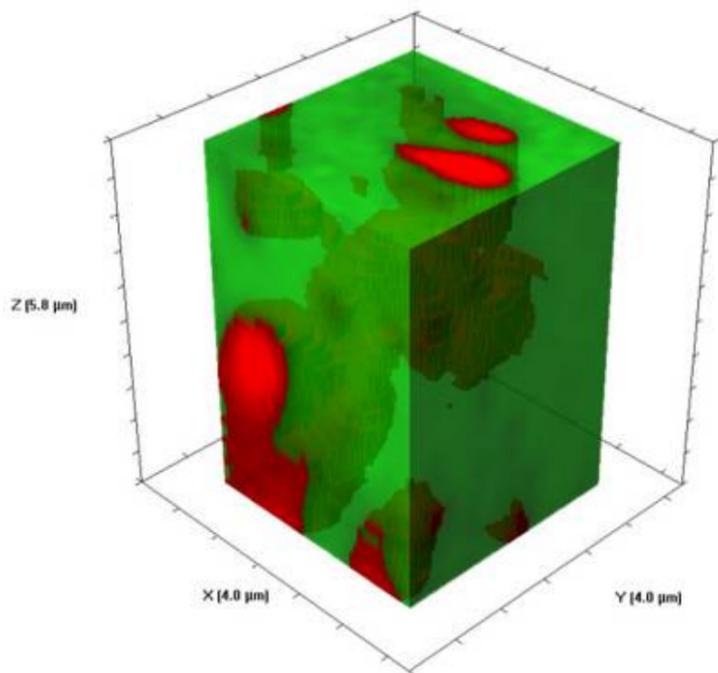




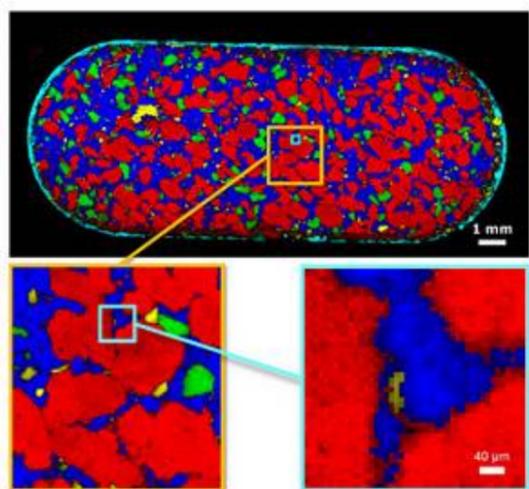
SWIFT™ ultra fast Raman image of a mineral section, illustrating distribution of quartz species (red/blue) and a haematite seam.



SWIFT™ Raman image of graphene on Silicon, showing mono-layer, bi-layer and tri-layer areas. A step size of 200nm was used, with 50 ms integration per point.



SWIFT™ 3D Raman volume display of barium sulfate particles in a polymer matrix in a 92 μm<sup>3</sup> volume, acquired with 200nm step and 50ms integration.



High definition SWIFT™ image of entire 17mm pharmaceutical tablet, comprising over 2.6 million spectra. Zoom regions are taken from the same data, illustrating how a single high definition image can be used to survey on millimeter scales and investigate detail on the micrometer scale.

