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## **AVS – File Format**

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## General structure

ARGOS .avs files are BigTiff files containing the different resolution levels, focal planes, an overview scan and a macro image.

The first IFD is the highest resolution level of the lowest focal plane, followed by the lower resolution levels of the lowest focal plane, followed by the resolution levels of the higher focal planes. The second to last IFD contains a overview scan of the tissue area of the glass slide. The last IFD contains a macro image of the entire glass slide.

All images are stored in a tiled manner according to the BigTiff standard, except the overview scan and the macro image which are stored in a striped manner according to the BigTiff standard.

## Scan Metadata

Scan metadata can be found in a separate xml file which is stored in the first IFD under TAG 65000. The metadata has the following structure:

```
<Argos.Scan.Metadata>
  <ObjectiveMagnification>20</ObjectiveMagnification>
  <ObjectiveName>Olympus UPlanXApo 20x</ObjectiveName>
  <AcquisitionDate>06.13.2023</AcquisitionDate>
  <AcquisitionTime>10:13:08</AcquisitionTime>
  <ZRange>0</ZRange>
  <MinZ>0</MinZ>
  <MaxZ>0</MaxZ>
  <ScanArea>
    <X1>0.15</X1>
    <Y1>0.15</Y1>
    <Y2>2.35</Y2>
    <X2>5.15</X2>
  </ScanArea>
  <Barcode>XXXXXXXX</Barcode>
  <Scanner>Scanner 6</Scanner>
</Argos.Scan.Metadata>
```

where MinZ and MaxZ being the index of the lowest/highest stored focal plane, ZRange being the distance from the lowest to the highest focal plane in  $\mu\text{m}$ , ScanArea being the glass slide coordinates of the scanned area in cm.