This poster presents an approach to run a Ki-67 analysis within a distributed computing infrastructure and is subdivided into three sections: (I) simplified parallel processing workflow for Ki-67, (II) distributed set-up for a Ki-67 application and (III) results.

(a) overview of a WSI with a dimension of 67,584 x 93,952 pixels
(b) splitting WSI into 1,024 x 1,024 px tiles
(c) running a Ki-67 analysis on each tile on a computing node

- Linux environment
- Cluster 1: 6 Nodes, 72 CPUs @ 2.20GHz, 288 GB RAM
- Cluster 2: 6 Nodes, 70 CPUs (Intel + AMD), 176 GB RAM
- Ki-67 analysis executed by open source .NET framework (Mono)
- Tiles are stored within a distributed filesystem (HDFS)

10 x faster computation time
- before: 28 h on a typical office PC
- after: 1.5 h on a cluster
- more than 10x faster (using 72 CPU cores)
- speedup increases linearly with the number of tiles