For a smart processing of Full HD images and videos on Parallel and Heterogeneous Platforms

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**Input data**

- Input devices
- HDMI
- SDI Capture
- Network

**Data acquisition**

**Smart Processing**

- **Primitives selection**
- Image processing
- Video processing
- Medical imaging
- CPU, GPU and hybrid versions

- **Advanced methods**

- **Resources selection**

- **Output data**
- Alerts
- Notifications
- Other...

- **Interpretation**
  - OpenGL visualization
  - Objects coloring
  - Multiple visualization
  - SDI output

- **Visualization**

**Given scenarios**

- Event detection
- Fire detection
- Human tracking
- Videos indexation
- Vertebra detection

**Result: motion tracking**

**Conclusion**

- CPU, GPU and Multi-CPU-GPU processing
- Smart selection of algorithms accordingly to given scenarios
- Smart selection of resources (CPU and/or GPU)
- Real time processing of Full HD/4K videos