Company Profile

HM is a leading vendor of high quality Video and Still-Images Processing algorithms and products.

Human Monitoring (HM) is offering leading and unique video and still images processing portable algorithms and solutions, which are based on innovation and vast engineering experience.

Our Mission

To maintain the leadership of providing innovative, cost effective, highly integrated and of the highest quality video and still-Images processing solutions.

Market Opportunity

The video market is one of the fastest growing and most exciting markets covering consumer, cellular, security, PC and Defense Segments.
Addressable market opportunity is estimated to exceed $1B in 2007- 2010.

Our video and stills Image solutions enable Original Design Manufacturers (ODMs) and OEMs to introduce competitive consumer and professional appliances, which are cost effective yet superior in performance. HM's products enable the enhancement of appliances like Personal Media Players, Cameras, Camcorders, Cellular-Handsets and IP STBs.

With HM's compression solutions - for both embedded platforms and the PC - users and operators can store and use much more content in less space, reducing significantly the cost of ownership and enhancing the viewing experience.

Technology Advantage

The company's core competence lies in its innovative algorithms, which create a solid basis for both high quality and lightening fast performance, yet engaging minimal computational and memory resources.

HM's unique (patent pending) algorithms include ultra fast video stabilizer, privacy protecting motion detection and tracking, motion estimation engine, and still-images codec. These algorithms form the basis of series of leading products with superior performance.

HM's motion estimation and rate control algorithms, provide quality and efficiency edge for 2D and 3D AVC video encoding, standard and high-definition (SD/HD) video stabilization, motion detection and object tracking, and also intra-predictive image compression.

In 2005, the company has purchased the major intellectual properties of Moonlight Cordless Ltd., including Moonlight's highly acclaimed MPEG-2 Encoder and AVC (H.264) Decoder for the Philips PNX TriMedia-based platforms. These products were further enhanced in parallel to development of innovative complementary products.

The company has built a highly professional core team, leveraging the video processing know-how of the formerly Moonlight Cordless with additional outstanding algorithmic enhancement and experts.

Product Offering and Value Proposition

All our products are offered as software libraries or applications running on a PC and various DSP platforms. With our Hardware partners, solutions can be provided as stand alone units. Our IPs are portable, and can be provided also as VHDL modules for integration with System on Chips (SoC).

H.264 HD/SD Video Encoder

HM's H.264 Video Encoder is based on the company's revolutionary ultra-wide-range Motion Estimation Engine and predictive Rate Distortion. This combination allows the encoder to exploit all of the AVC tools, including partitioning and 8 multi reference frames. Encoding high quality SDTV resolution is faster than real-time on a single CPU PC, and HDTV (720p) is performed in real time on a dual core PC.. The encoder produces excellent quality (including action sports) at 1-1.5Mbits per second, at x1.5 to x4 times faster than leading PC Encoders in the market.

Value to the end user:
- o Lesser storage volume for high quality video.
- o Real time Encoding of SDTV and HDTV using low computational resources

Video Image Stabilizers (Leonardo™)

HM's real time stabilizer removes shakiness from almost any video footage, without the need of human intervention. The Stabilizer copes with low and high frequencies of large scale shakiness typical to shooting with a light handset, long zoom lenses, or by unprofessional shooting while on the move. The stabilizer operates in real time, has low latency (<50 mSecs) and requires a minimal frames memory of less than 2 frames.

Value to the end user:
- o Built in "Always On" stabilization, for mobile handsets / camera devices / CMOS sensors
- o Saving valuable shaky documentary and news footage, turning it into broadcast quality materials.
- o Potential for providing stabilization services for home video, and video editing suites.

Real Time Mosaic Creation (Fresco™)

HM's Real time mosaics stitching, creating panoramic still pictures from a video stream in real time. The high precision process allows stitching of both long and wide lenses output without any user intervention. Panorama size is practically unlimited in size, capable of providing over 50MPixels panoramas, covering 360 degrees view.

Value to the end user:
- o Convert video momentary information into a static data base, which can be processed efficiently, enhancing medical and security applications
- o Replacing inefficient video documentation with highly accessible imaging solution, which is suitable for 360 degrees documentation of construction status, aerial mapping, etc.
- o Allowing smaller storing space, replacing huge video files with far smaller high resolution panoramic images.

Still-Images CoDec

HM's HMP CoDec provides high quality compression resulting in 20%-60% smaller files than the most advanced JPEG2000 scheme, at both high and low bit rates. The HMP

computation complexity is substantially simpler than the wavelet processing required by JPEG2000.

The compression scheme provides, lossy and lossless compression, navigation and full resolution zoom on a ROI (Region of Interest), bypassing the need of decoding the whole image.

Value to the end user:

- o Lesser storage volume for high quality and/or high resolution images (a real need for picture-albums servers, cameras, media players and cellular handsets)
- o Easy pictures transfer over the internet/email due to smaller file size for a given quality.
- o Ability to display very large images, over 100Mega Pixels, (such as maps, mosaics, medical and satellite) using a standard PC, including navigation of ROI in full resolution
- o Scalable pictures for fast loading of websites and ultra high resolution images.
- o Lossless compression for security/medical applications

Motion Compensated De-Interlacer (Velasquez™)

HM's Motion Compensated De-Interlacer enables the conversion of interlaced video streams into high quality (single or double frame rate) progressive video streams, for display on flat panel displays (LCD/Plasma/DLP).

Value to the end user:

- o Enabling sharp progressive display of interlaced video originated from analog cameras on non-interlaced flat panels.
- o Keeping the smooth motion and avoiding the typical progressive scan strobe artifact, by doubling the frame rate, producing very smooth motion, with action sports scenes

Video CoDecs (running on NXP's DSPs)

Encoders for MPEG2, H.264 (AVC).
Video Conferencing CoDecs (H.264)
Low Latency Encoders
Decoders of H.264 (AVC), QuickTime 7.0, Sony PSP

Company Background

HM is a privately held company.

The company was founded in 2004 by 3 experienced veterans, who joined forces to bring tens of years of business and technology experience:

- Meir Kollmann formerly the CEO of Shiron Satellite Communications Ltd, and the co-founder and the CEO of PacketLight Networks Ltd
- Ira Dvir, Founder and former VP R&D and CEO of Moonlight Cordless Ltd, which was one of the leading suppliers of MPEG-2 and AVC CoDecs
- Dr. Nitzan Rabinowitz – an algorithm expert, formerly the CTO of Moonlight Cordless Ltd.

HM is headquartered in Kibutz Givaat Hashlosha, Israel.
Among the company's third party partners are Texas Instrument and Renesas