TECHNAID

LEADING MOTION

Capture, analysis of movement and technical aids

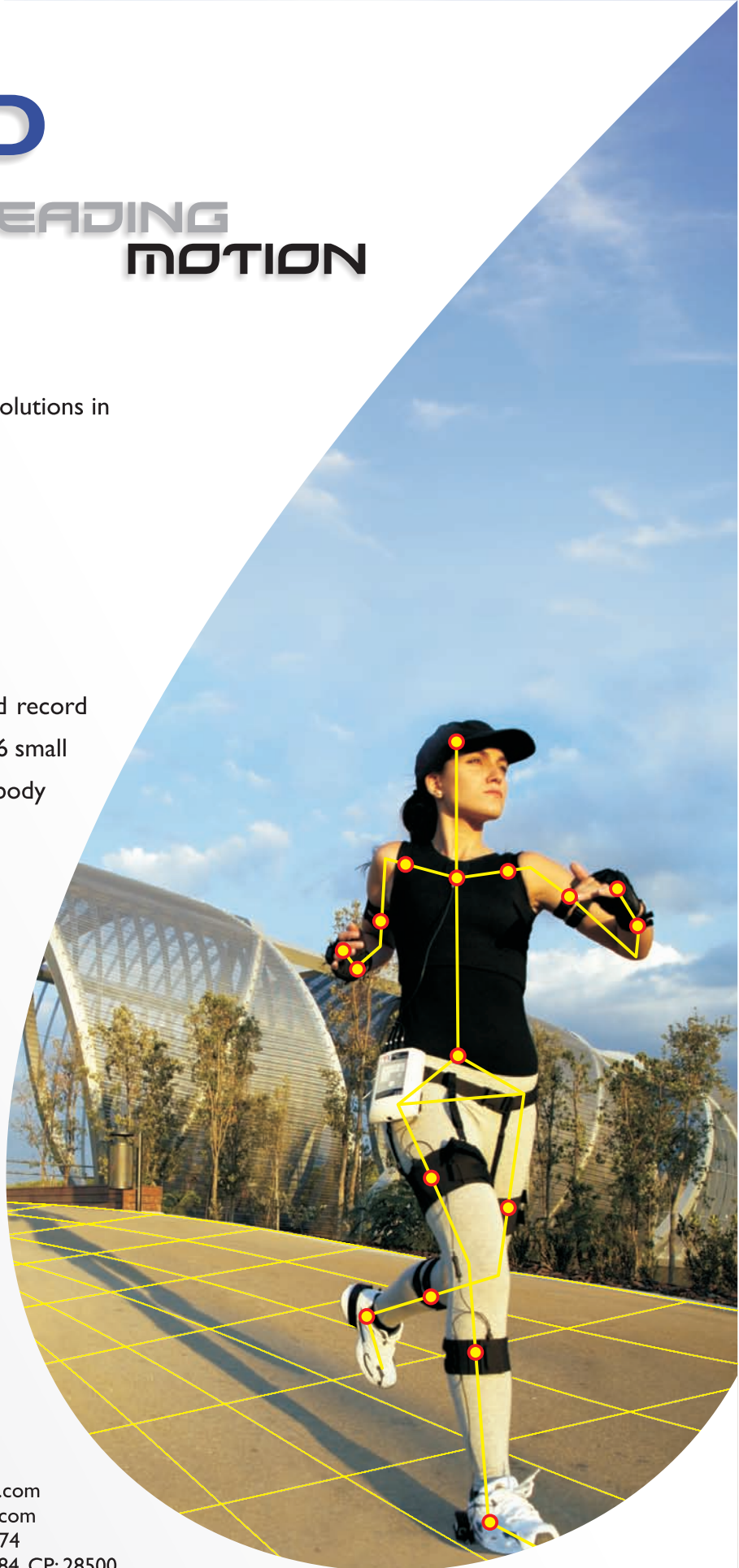Research and development for innovative solutions in capture and human motion analysis.

Tech MCS

Motion Capture System

The Tech-MCS is developed to capture and record the movement of the human body. It uses 16 small inertial sensors, which measure the human body kinematics in real time.

Its accuracy, portability, versatility and simplicity make it ideal for several work areas. Some of these are:

- Motion analysis in R&D
- Rehabilitation
- Physioterapy
- Ergonomics
- Sports
- Virtual reality and 3D animation

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Tech MCS V.3

Precision, versatility and simplicity are the essence of Tech MCS motion capture system.

Tech HUB V.3

This HUB device allows connecting and synchronizing up to 16 Tech IMU CAN simultaneously. It is suitable for network solutions where measurement in several points of the system is required.

- Portable, robust and ergonomic system.
- Intuitive operation thanks to its membrane keyboard.
- Sampling frequency of 10 to 200 Hz.
- USB or Bluetooth communication
- Data storing on an inside 8 GB MicroSD, Class 6.
- Acoustic and light signals.
- Input and output triggering to synchronize with other devices.
- 15 × 10 × 6 cm size, in a durable plastic case.
- SDK for developing applications on Windows and Matlab/Simulink.
- Tech MCS Studio software compatible with Windows XP/VISTA/7.
- 4 batteries (AA NiMH) or power adapter (5VDC @ 3A).

Tech MCS has all the necessary accessories available to suit any applications:

- Adaptable fabric straps to instrument the human body.

- Wireless adapters to synchronize with external systems.

Tech MCS V.3
Technical Specifications

1	Simultaneous connection	16 Tech IMU CAN
2	Rechargeable batteries	4 AA
3	Power adapter (international multi-connector)	110/220 VAC
4	Nominal voltage	5V
5	Maximum current (16 Tech IMU connected)	3A
6	**Communication**	
6.1	Cable	USB
6.2	Wireless communication	Bluetooth
6.3	PC Offline Mode	Micro SD (8Gb)
6.4	Wireless range with Line-Of-Sight	150 m.
6.5	Wireless range with obstacles	50 m.
6.6	Wireless synchronization In/Out with external systems (Optional).	Yes (RF)
7	**Size and weight**	
7.1	Tech IMU size (LxWxH)	36x26x11 mm
7.2	Tech IMU weight	9 gr.
7.3	Weight of system in big case (430mm x 350mm x 180mm)	4500 gr.
7.4	Weight of system in medium case (320mm x 260mm x 160mm)	3000 gr.
8	Suitable for outdoor use with or without PC	Yes
9	Portable and easy to install	Yes
10	**Software**	
10.1	Real time data visualization and recording	Yes
10.2	3D data recording (acceleration, angular velocity and magnetic field)	Yes
10.3	Tech IMUs temperature recording	Yes
10.4	Graphic visualization in 3D Avatars	Yes
10.5	Captures Start/Stop timer	Yes
10.6	Operating system compatibility (Windows 32/64)	Vista, 7, 8
11	**Data output**	
11.1	Tech IMU 3D digital data (RAW)	10 Signals
11.2	Tech IMU 3D physical data (calibrated)	10 Signals
11.3	3D orientation in Quaternions	Yes
11.4	3D orientation in DCM (Direct Cosine Matrix)	Yes
12	**Export formats**	
12.1	Plain text file (Excel or Matlab compatible)	Yes
13	**Applications**	
13.1	Research in biomechanics	Yes
13.2	Rehabilitation (GAIT analysis)	Yes
13.3	Sporting performance	Yes
13.4	Ergonomics	Yes
14	**Data accuracy**	
14.1	High accuracy inertial sensors	< 1 degree
14.2	Accurate and robust orientation algorithm	EKF
14.3	Minimum body interference	Yes
14.4	Immunity algorithm to EM fields	Yes
15	Adjustable textile adapters	Yes
16	**Customer support**	
16.1	Free upgrade of software and firmware	1 year
16.2	International guarantee for manufacturing defects	1 year
16.3	Adaptable to customer specific needs (customization)	Yes
16.4	Specialized technical support via email, teleconference or videoconference	Yes
16.5	Support for real time applications with Matlab and Simulink	Yes
16.6	Free SDK (Software Development Kit)	Yes

Tech-MCS V3: Medium case for up to 8 Tech-IMUs *

Tech-MCS V3: Big case for up to 16 Tech-IMUs *

* The images are indicative, may change according to the required configuration for each customer.