ids imaging development systems gmbh

ids imaging development systems gmbh is a renowned company specializing in the development and manufacturing of innovative industrial camera solutions. Known for its cutting-edge imaging technology, ids imaging development systems gmbh serves a broad range of industries, including automation, robotics, medical technology, and quality assurance. This article explores the company’s history, product portfolio, technological advancements, and its impact on the machine vision market. With a focus on high-performance cameras and comprehensive software solutions, ids imaging development systems gmbh has established itself as a key player in the global imaging technology sector. Readers will gain a detailed understanding of the company’s offerings, core technologies, and strategic market positioning. The following sections provide an in-depth look at various aspects of ids imaging development systems gmbh.

Company Overview and History

ids imaging development systems gmbh is a German-based company founded in 1997 that specializes in the design and manufacture of industrial cameras and imaging solutions. Over the years, the company has grown substantially, focusing on delivering high-quality and reliable camera systems for various machine vision applications. With headquarters in Obersulm, Germany, the company has developed a reputation for innovation and customer-centric solutions in the imaging industry. Its commitment to research and development has enabled ids imaging development systems gmbh to maintain a leadership position in the competitive market for industrial cameras and vision technology.

Founding and Growth

The establishment of ids imaging development systems gmbh marked a

significant milestone in the industrial imaging sector. Since its inception, the company has continuously expanded its product portfolio and technological capabilities. Early on, the focus was on creating versatile camera systems that could meet the demanding requirements of automation and inspection processes. Today, ids imaging development systems gmbh employs a team of experts dedicated to advancing imaging technologies and delivering tailor-made solutions.

Corporate Philosophy

The core philosophy of ids imaging development systems gmbh centers around innovation, quality, and customer satisfaction. The company aims to provide imaging products that not only meet the highest standards but also enable clients to optimize their production and inspection workflows. This philosophy drives the company’s investment in state-of-the-art manufacturing processes and comprehensive support services.

Product Range and Camera Technologies

ids imaging development systems gmbh offers an extensive selection of industrial cameras designed to accommodate diverse application needs. The product range includes USB, GigE, and 3D cameras, as well as specialized models for high-speed and high-resolution imaging. These cameras are engineered to deliver exceptional image quality, high frame rates, and robust performance in challenging industrial environments.

USB and GigE Cameras

Among the most popular products are USB 3.0 and GigE cameras, which provide flexible connectivity options and ease of integration. USB cameras by ids imaging development systems gmbh are known for their plug-and-play capability, high data transfer rates, and compact design. GigE cameras, on the other hand, offer longer transmission distances and network-based setups, making them suitable for complex machine vision systems.

3D and Special Cameras

ids imaging development systems gmbh also develops 3D cameras that enable depth perception and spatial analysis, crucial for applications such as robotics and quality control. Additionally, the company produces cameras with specialized sensors including monochrome, color, and thermal imaging sensors tailored to specific industrial tasks.

Key Features of IDS Cameras

- High resolution and dynamic range for detailed imaging
- Fast frame rates suitable for real-time processing
- Robust design to withstand industrial environments
- Flexible interface options including USB 3.0, GigE, and more
- Compact and lightweight construction for easy integration

Software Solutions and Integration

Complementing its hardware offerings, ids imaging development systems gmbh provides advanced software tools designed to maximize the performance and flexibility of its cameras. These software solutions support developers and engineers in creating customized vision applications and streamlining integration processes.

IDS Software Suite

The IDS Software Suite is a comprehensive package that includes drivers, SDKs, and configuration tools. It enables seamless camera operation, image acquisition, and parameter adjustment. The software supports multiple programming languages and development environments, facilitating integration into various industrial systems.

IDS Vision Components

In addition to the core software, ids imaging development systems gmbh offers vision components that extend the functionality of their cameras. These include image processing libraries, machine learning modules, and tools for 3D vision, which help accelerate the development of complex vision applications.

Integration and Compatibility

ids imaging development systems gmbh ensures its products are compatible with leading third-party machine vision software and hardware platforms. This interoperability is critical for customers requiring flexible and scalable vision solutions in automation and inspection environments.

Applications and Industry Sectors

ids imaging development systems gmbh’s cameras and software solutions are employed across a wide array of industries where precise imaging and reliable vision technology are essential. The versatility of their products allows for deployment in both standard and highly specialized applications.

Manufacturing and Automation

In manufacturing, ids imaging development systems gmbh’s cameras are integral to automated inspection, quality control, and process monitoring. Their high-speed imaging capabilities enable real-time detection of defects and ensure product consistency on production lines.

Medical and Life Sciences

The company’s imaging systems also have applications in medical technology, where high-resolution and accurate imaging are fundamental. Cameras from ids imaging development systems gmbh support diagnostic equipment, laboratory automation, and bio-imaging applications.

Robotics and Autonomous Systems

Robotics benefit from the 3D and machine vision technologies provided by ids imaging development systems gmbh. Their cameras enable robots to perceive their environment, perform object recognition, and execute precise movements, enhancing automation capabilities across industries.

Additional Application Areas

- Traffic and security surveillance
- Food and beverage inspection
- Pharmaceutical production monitoring
- Scientific research and development

Innovation and Technological Advancements

ids imaging development systems gmbh continuously invests in research and development to maintain its competitive edge in the imaging market. The

company focuses on innovation in sensor technology, image processing algorithms, and system integration techniques to meet evolving customer demands.

Advanced Sensor Technologies

The company collaborates closely with sensor manufacturers to incorporate the latest CMOS and CCD sensors into its camera designs. This partnership ensures superior image quality, low noise levels, and enhanced sensitivity under diverse lighting conditions.

Smart Camera Development

ids imaging development systems gmbh is also advancing in the smart camera segment, integrating processing power directly into the camera hardware. This reduces the need for external computing resources and enables edge processing for faster, more efficient vision applications.

Sustainability and Efficiency

Recognizing the importance of environmental responsibility, ids imaging development systems gmbh implements energy-efficient manufacturing processes and designs products with long service life and recyclability in mind. These efforts align with global sustainability trends within the technology sector.

Global Presence and Market Strategy

ids imaging development systems gmbh operates on a global scale, serving customers through a network of subsidiaries, distributors, and partners. This extensive reach allows the company to provide localized support and faster delivery times worldwide.

International Offices and Partners

The company maintains offices and technical support centers in multiple countries, ensuring efficient communication and service for clients across different regions. Strategic partnerships with system integrators and technology providers further enhance market penetration.

Customer Support and Training

ids imaging development systems gmbh offers comprehensive customer support, including technical consulting, training sessions, and application

development assistance. This commitment helps clients optimize the use of imaging systems and accelerate project implementation.

Market Focus and Future Outlook

Focusing on innovation and customer-centric solutions, ids imaging development systems gmbh aims to expand its presence in emerging sectors such as artificial intelligence-driven vision systems and Industry 4.0 applications. The company’s strategic initiatives position it for sustained growth and technological leadership in the years ahead.

Frequently Asked Questions

What is IDS Imaging Development Systems GmbH known for?

IDS Imaging Development Systems GmbH is known for developing and manufacturing high-quality industrial cameras and imaging solutions for various applications including automation, medical technology, and traffic monitoring.

Where is IDS Imaging Development Systems GmbH headquartered?

IDS Imaging Development Systems GmbH is headquartered in Obersulm, Germany.

What types of cameras does IDS offer?

IDS offers a wide range of cameras including USB cameras, GigE cameras, 3D cameras, and embedded vision systems tailored for industrial and scientific applications.

Does IDS provide software for camera integration?

Yes, IDS provides the IDS Software Suite, which includes drivers, an SDK, and tools for easy integration and customization of their cameras in various applications.

What industries benefit from IDS imaging solutions?

Industries such as manufacturing automation, medical imaging, traffic monitoring, logistics, and robotics benefit from IDS's imaging solutions.

Are IDS cameras compatible with popular machine vision frameworks?

Yes, IDS cameras are compatible with many machine vision frameworks and support interfaces like GenICam, making integration with software like Halcon, OpenCV, and others straightforward.

Does IDS Imaging Development Systems offer customized camera solutions?

Yes, IDS offers customized camera solutions and OEM products tailored to specific customer requirements and applications.

What is the significance of the IDS NXT platform?

The IDS NXT platform is a smart camera system combining hardware and AI-based software, enabling edge computing and real-time image processing for advanced machine vision applications.

How does IDS support developers and engineers using their products?

IDS supports developers with comprehensive documentation, software development kits (SDKs), sample code, technical support, and regular software updates.

Can IDS cameras be used for 3D imaging and measurement?

Yes, IDS provides specialized 3D cameras and stereo vision systems designed for 3D imaging, measurement, and quality control tasks in industrial environments.

Additional Resources

1. *Advanced Machine Vision with IDS Imaging Development Systems GmbH*
This book explores the cutting-edge machine vision technologies developed by IDS Imaging Development Systems GmbH. It covers the integration of IDS cameras and software in industrial automation, quality control, and robotics. Readers will gain insights into hardware specifications, software tools, and practical applications in various industries.

2. *Practical Guide to Industrial Cameras: IDS Imaging Systems in Action*
Focusing on the practical use of IDS Imaging cameras, this guide provides detailed instructions on setup, calibration, and optimization. It includes case studies demonstrating how IDS products solve real-world imaging challenges. The book is ideal for engineers and technicians working with

machine vision systems.

3. *Embedded Vision Solutions: Leveraging IDS Imaging Technology*
This book delves into embedded vision systems using IDS cameras and modules. It explains the design principles behind embedded imaging solutions and offers development tips for integrating IDS hardware into compact devices. Applications in automotive, medical, and consumer electronics are discussed.

4. *Software Development with IDS Imaging SDKs*
A comprehensive resource for developers, this book covers the software development kits provided by IDS Imaging Development Systems GmbH. It discusses APIs, sample code, and best practices for building custom vision applications. The text supports multiple programming languages and platforms.

5. *High-Speed Imaging and IDS Cameras: Techniques and Applications*
This title focuses on the high-speed imaging capabilities of IDS cameras. It explains how to capture fast-moving objects with precision and analyze dynamic processes. The book includes examples from manufacturing, sports analytics, and scientific research.

6. *Integrating IDS Imaging Systems in Automated Production Lines*
Detailing the role of IDS imaging technology in automation, this book guides readers through system integration processes. Topics include hardware compatibility, network communication, and real-time image processing. It also covers troubleshooting and maintenance for sustained performance.

7. *Vision Sensor Networks: IDS Imaging Solutions for Smart Factories*
This book examines how IDS Imaging products contribute to the development of smart factory environments. It discusses sensor networking, data fusion, and AI-powered analytics using IDS cameras. Readers will understand how to build scalable vision sensor networks for Industry 4.0.

8. *Color Imaging and IDS Cameras: Enhancing Visual Inspection*
Focusing on color imaging technology, this book highlights how IDS cameras improve visual inspection tasks. It covers color calibration, lighting considerations, and image processing algorithms. The text is valuable for quality assurance professionals in diverse manufacturing sectors.

9. *Future Trends in Machine Vision: Innovations from IDS Imaging Development Systems GmbH*
This forward-looking book explores emerging trends and innovations spearheaded by IDS Imaging Development Systems GmbH. Topics include AI integration, 3D imaging, and cloud-based vision solutions. The book provides a visionary outlook on the future of machine vision technology.

Ids Imaging Development Systems Gmbh

ids imaging development systems gmbh: Biometric Systems Loris Nanni, Sheryl Brahnam, 2021-09-01 Because of the accelerating progress in biometrics research and the latest nation-state threats to security, this book's publication is not only timely but also much needed. This volume contains seventeen peer-reviewed chapters reporting the state of the art in biometrics research: security issues, signature verification, fingerprint identification, wrist vascular biometrics, ear detection, face detection and identification (including a new survey of face recognition), person re-identification, electrocardiogram (ECT) recognition, and several multi-modal systems. This book will be a valuable resource for graduate students, engineers, and researchers interested in understanding and investigating this important field of study.

ids imaging development systems gmbh: Devices and Systems for Laboratory Automation Kerstin Thurow, Steffen Junginger, 2022-08-08 Devices and Systems for Laboratory Automation Structured Overview on the Available Systems and Devices for Laboratory Automation Choosing the right systems and devices for the automation in any given laboratory is an essential part for the process to succeed. As relevant information to make an informed choice is not always readily available, a structured overview is essential for modern scientists. This book provides an introduction into laboratory automation and an overview of the necessary devices and systems. Sample topics discussed by the two well-qualified authors include: Specific requirements the automation needs to fulfill such as liquid delivery, low volume delivery, solid delivery, and sample preparation An overview on robots and mobile robots Common interfaces in laboratory automation For scientists and all individuals working in laboratories, the work serves as an indispensable resource in helping to make laboratory processes more streamlined, effective, and efficient.

ids imaging development systems gmbh: Quad Rotorcraft Control Luis Rodolfo García Carrillo, Alejandro Enrique Dzul López, Rogelio Lozano, Claude Pégard, 2012-08-12 Quad Rotorcraft Control develops original control methods for the navigation and hovering flight of an autonomous mini-quad-rotor robotic helicopter. These methods use an imaging system and a combination of inertial and altitude sensors to localize and guide the movement of the unmanned aerial vehicle relative to its immediate environment. The history, classification and applications of UAVs are introduced, followed by a description of modelling techniques for quad-rotors and the experimental platform itself. A control strategy for the improvement of attitude stabilization in quad-rotors is then proposed and tested in real-time experiments. The strategy, based on the use low-cost components and with experimentally-established robustness, avoids drift in the UAV’s angular position by the addition of an internal control loop to each electronic speed controller ensuring that, during hovering flight, all four motors turn at almost the same speed. The quad-rotor’s Euler angles being very close to the origin, other sensors like GPS or image-sensing equipment can be incorporated to perform autonomous positioning or trajectory-tracking tasks. Two vision-based strategies, each designed to deal with a specific kind of mission, are introduced and separately tested. The first stabilizes the quad-rotor over a landing pad on the ground; it extracts the 3-dimensional position using homography estimation and derives translational velocity by optical flow calculation. The second combines colour-extraction and line-detection algorithms to control the quad-rotor’s 3-dimensional position and achieves forward velocity regulation during a road-following task. In order to estimate the translational-dynamical characteristics of the quad-rotor (relative position and translational velocity) as they evolve within a building or other unstructured, GPS-deprived environment, imaging, inertial and altitude sensors are combined in a state observer. The text give the reader a current view of the problems encountered in UAV control, specifically those relating to quad-rotor flying machines and it will interest researchers and graduate students working in that field. The vision-based control strategies presented help the reader to a better understanding of how

an imaging system can be used to obtain the information required for performance of the hovering and navigation tasks ubiquitous in rotored UAV operation.

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ids imaging development systems gmbh: *Handbook of Vascular Biometrics* Andreas Uhl, Christoph Busch, Sébastien Marcel, Raymond Veldhuis, 2019-11-14 This open access handbook provides the first comprehensive overview of biometrics exploiting the shape of human blood vessels for biometric recognition, i.e. vascular biometrics, including finger vein recognition, hand/palm vein recognition, retina recognition, and sclera recognition. After an introductory chapter summarizing the state of the art in and availability of commercial systems and open datasets/open source software, individual chapters focus on specific aspects of one of the biometric modalities, including questions of usability, security, and privacy. The book features contributions from both academia and major industrial manufacturers.

ids imaging development systems gmbh: *Ultra-Narrowband Multispectral Imaging* Janis Spigulis, 2024-09-18 This book provides insight into an unconventional modality of imaging where several spectral images are captured by a single snapshot under multi-laser illumination, ensuring high-speed imaging within extremely narrow spectral bands. This method has three distinct advantages, if compared to common commercial multispectral imaging systems - considerably improved spectral selectivity (or colour sensitivity) of imaging, avoided motion artefacts in the spectral image sets, and simpler/faster image processing as integrals over the spectral bands of imaging are replaced by numbers of the fixed working wavelengths. The basic principles and progress in this field are reviewed, focusing on applications for human skin diagnostics and printed forgery detection. The designs of ten different lab-developed prototypes that implement this method are described, along with results of their laboratory, clinical and/or forensic tests. This research leads to the development of new equipment and protocols for better skin diagnostics and the advanced detection of money, document, and artwork forgeries. Chapter 1 explains the basics of spectral imaging, including the main principles of multispectral and hyperspectral imaging. Chapter 2 introduces the snapshot multi-spectral-line imaging (SMSLI) method, focusing on lasers as multi-wavelength illumination sources. Chapter 3 describes multi-laser illumination designs while Chapter 4 presents main specifications of the lab-assembled prototype devices implementing such designs. Results of the test measurements confirming applicability of the developed solutions for analysis/mapping of colour pigments in clinical diagnostics and forgery detection are discussed in Chapters 5 and 6, respectively. This will be a valuable reference for laser and imaging professionals, photonics researchers and engineers, clinicians (dermatologists, plastic surgeons, oncologists), forensic experts, and students of physics, chemistry, biology, medicine, and engineering. Key Features: · Reviews techniques and applications of narrowband spectral imaging using multi-laser illumination. · Presents ten different prototypes for implementing the multi-spectral-line imaging method. · Discusses applications of spectral line imaging for human skin diagnostics and forgery detection.

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Intelligent Transportation Systems and Smart Mobility, Computer Vision, Machine Learning for Image Analysis and Applications, Computer and Systems Based Methods and Electronic Technologies in Medicine, Systems in Industrial Robotics, Automation and IoT, Systems Thinking. Relevance for Technology, Science and Management Professionals.

ids imaging development systems gmbh: Intelligent Systems and Applications Kohei Arai, 2025-09-07 The 11th Intelligent Systems Conference (IntelliSys) 2025, held in Amsterdam, The Netherlands, from 28–29 August 2025, brought together researchers, practitioners, and experts from around the world to share advancements in intelligent technologies. Conducted in a hybrid format, the conference facilitated global collaboration and participation. This volume presents a curated selection of 169 peer-reviewed papers from a total of 470 submissions, covering key areas such as Artificial Intelligence, Computer Vision, Robotics, and Intelligent Systems. The contributions reflect the latest research trends, practical applications, and emerging challenges in these domains. We hope that these proceedings serve as a valuable resource for researchers, practitioners, and students, and that they inspire future work and collaborations in the field of intelligent systems.

ids imaging development systems gmbh: *Phenomics* John Doonan, Marcos Egea-Cortines, 2018-11-08 Phenomics is an emerging area of research whose aspiration is the systematic measurement of the physical, physiological and biochemical traits (the phenome) belonging to a given individual or collection of individuals. Non-destructive or minimally invasive techniques allow repeated measurements across time to follow phenotypes as a function of developmental time. These longitudinal traits promise new insights into the ways in which crops respond to their environment including how they are managed. To maximize the benefit, these approaches should ideally be scalable so that large populations in multiple environments can be sampled repeatedly at reasonable cost. Thus, the development and validation of non-contact sensing technologies remains an area of intensive activity that ranges from Remote Sensing of crops within the landscape to high resolution at the subcellular level. Integration of this potentially highly dimensional data and linking it with variation at the genetic level is an ongoing challenge that promises to release the potential of both established and under-exploited crops.

ids imaging development systems gmbh: Precision agriculture '21 John V. Stafford, 2023-08-14 Precision agriculture is a reality in agriculture and is playing a key role as the industry comes to terms with the environment, market forces, quality requirements, traceability, vehicle guidance and crop management. Research continues to be necessary, and needs to be reported and disseminated to a wide audience. These proceedings contain reviewed papers presented at the 13th European Conference on Precision Agriculture, held in Budapest, Hungary. The papers reflect the wide range of disciplines that impinge on precision agriculture - technology, crop science, soil science, agronomy, information technology, decision support, remote sensing and others. The broad range of research topics reported will be a valuable resource for researchers, advisors, teachers and professionals in agriculture long after the conference has finished.

ids imaging development systems gmbh: *Nanostructure Based Sensors for Gas Sensing: from Devices to Systems* Sabrina Grassini, Nicola Donato, 2019-10-29 The development of solid state gas sensors based on microtransducers and nanostructured sensing materials is the key point in the design of portable measurement systems able to reach sensing and identification performance comparable with analytical ones. In such a context several efforts must be spent of course in the development of the sensing material, but also in the choice of the transducer mechanism and its structure, in the electrical characterization of the performance and in the design of suitable measurement setups. This call for papers invites researchers worldwide to report about their novel results on the most recent advances and overview in design and measurements for applications in gas sensors, along with their relevant features and technological aspects. Original research papers are welcome (but not limited) on all aspects that focus on the most recent advances in: (i) basic principles and modeling of gas and VOCs sensors; (ii) new gas sensor principles and technologies; (iii) Characterization and measurements methodologies; (iv) transduction and sampling systems; (vi) package optimization; (vi) gas sensor based systems and applications.

ids imaging development systems gmbh: Advanced Computational Intelligence for Object Detection, Feature Extraction and Recognition in Smart Sensor Environments Marcin Woźniak, 2021-09-01 Recent years have seen a vast development in various methodologies for object detection and feature extraction and recognition, both in theory and in practice. When processing images, videos, or other types of multimedia, one needs efficient solutions to perform fast and reliable processing. Computational intelligence is used for medical screening where the detection of disease symptoms is carried out, in prevention monitoring to detect suspicious behavior, in agriculture systems to help with growing plants and animal breeding, in transportation systems for the control of incoming and outgoing transportation, for unmanned vehicles to detect obstacles and avoid collisions, in optics and materials for the detection of surface damage, etc. In many cases, we use developed techniques which help us to recognize some special features. In the context of this innovative research on computational intelligence, the Special Issue "Advanced Computational Intelligence for Object Detection, Feature Extraction and Recognition in Smart Sensor Environments" present an excellent opportunity for the dissemination of recent results and achievements for further innovations and development. It is my pleasure to present this collection of excellent contributions to the research community. - Prof. Marcin Woźniak, Silesian University of Technology, Poland –

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ids imaging development systems gmbh: Sperm Membrane Channels, Receptors and Kinematics Alejandro Vicente Carrillo, 2016-10-11 Internal fertilization usually implies that a spermatozoon, with intact attributes for zygote formation, passes all hurdles during its transport through the female genitalia and reaches the oocyte. During this journey, millions to billions of other spermatozoa perish. Spermatozoa are highly differentiated motile cells without synthetic capabilities. They generate energy via glycolysis and oxidative phosphorylation to sustain motility and to maintain the stability and functionality of their plasma membrane. In vivo, they spend their short lifespan bathing in female genital tract fluids of different origins, or are in vitro exposed to defined media during diverse sperm handling i.e. extension, cryopreservation, in vitro fertilization, etc. Being excitable cells, spermatozoa respond in vivo to various stimuli during pre-fertilization (capacitation, hyperactivation, oocyte location) and fertilization (acrosome reaction, interaction with the oocyte) events, mediated via diverse membrane ion-conducting channels and ligand-gated receptors. The present Thesis has mapped the presence and reactivity (sperm intactness and kinematics) of selected receptors, water and ion channels in ejaculated boar spermatozoa. The final aim was to find a relevant alternative cell type for in vitro bioassays that could ease the early scrutiny of candidate drugs as well as decreasing our needs for experimental animals according to the 3R principles. Spermatozoa are often extended, cooled and thawed to warrant their availability as fertile gametes for breeding or in vitro testing. Such manipulations stress the cells via osmotic variations and hence spermatozoa need to maintain membrane intactness by controlling the exchange of water and the common cryoprotectant glycerol, via aquaporins (AQPs). Both AQPs-7 and

-9 were studied for membrane domain changes in cauda- and ejaculated spermatozoa (un-processed, extended, chilled or frozen-thawed). While AQP-9 maintained location through source and handling, thawing of ejaculated spermatozoa clearly relocated the labelling of AQP-7, thus appearing as a relevant marker for non-empirical studies of sperm cryopreservation. Alongside water, spermatozoa interact with calcium (Ca2+) via the main Ca2+ sperm channel CatSper. Increments in intracellular Ca2+ initiate motility hyperactivation and the acrosome reaction. The four subunits of the CatSper channel were present in boar spermatozoa, mediating changes in sperm motility under in vitro capacitation-inducing conditions (increased extracellular Ca2+ availability and bicarbonate) or challenge by the CatSper antagonists mibefradil and NNC 55-0396. Uterine and oviduct fluids are richest in endogenous opioids as β-endorphins during mating and ovulation. Both μ- and δ- opioid receptors were present in boar spermatozoa modulating sperm motility, as in vitro challenge with known agonists (μ: morphine; δ: DPDPE and κ: U 50488) and antagonists (μ: naloxone; δ: naltrindole and κ: nor-binaltrorphimine) showed that the μ-opioid receptor maintained or increased motility while the δ-opioid receptor mediated decreased motility over time. Finally, boar spermatozoa depicted dose-response effects on sperm kinematics and mitochondrial potential following in vitro challenge with 130 pharmacological drugs and toxic compounds as well as with eight known mito-toxic compounds. In conclusion, boar spermatozoa expressing functional water (AQPs-7 and -9) and ion (CatSper 1-4) channels as well as μ- and δ-opioid receptors are able to adapt to stressful environmental variations, capacitation and pharmacological compounds and drug components. Ejaculated sperm suspensions are easily and painlessly obtained from breeding boars, and are suitable biosensors for in vitro drug-induced testing, complying with the 3R principles of reduction and replacement of experimental animals, during early toxicology screening.

ids imaging development systems gmbh: Tunable Micro-optics Hans Zappe, Claudia Duppé, 2015-12-17 Presenting state-of-the-art research into the dynamic field of tunable micro-optics, this is the first book to provide a comprehensive survey covering a varied range of topics including novel materials, actuation concepts and new imaging systems in optics. Internationally renowned researchers present a diverse range of chapters on cutting-edge materials, devices and subsystems, including soft matter, artificial muscles, tunable lenses and apertures, photonic crystals, and complete tunable imagers. Special contributions also provide in-depth treatment of micro-optical characterisation, scanners, and the use of natural eye models as inspiration for new concepts in advanced optics. With applications extending from medical diagnosis to fibre telecommunications, Tunable Micro-optics equips readers with a solid understanding of the broader technical context through its interdisciplinary approach to the realisation of new types of optical systems. This is an essential resource for engineers in industry and academia, and advanced students working on optical systems design.

ids imaging development systems gmbh: *Advances in Artificial Intelligence, Software and Systems Engineering* Tareq Z. Ahram, Waldemar Karwowski, Jay Kalra, 2021-07-07 This book addresses emerging issues concerning the integration of artificial intelligence systems in our daily lives. It focuses on the cognitive, visual, social and analytical aspects of computing and intelligent technologies, and highlights ways to improve the acceptance, effectiveness, and efficiency of said technologies. Topics such as responsibility, integration and training are discussed throughout. The book also reports on the latest advances in systems engineering, with a focus on societal challenges and next-generation systems and applications for meeting them. Further, it covers some cutting-edge issues in energy, including intelligent control systems for power plant, and technology acceptance models. Based on the AHFE 2021 Conferences on Human Factors in Software and Systems Engineering, Artificial Intelligence and Social Computing, and Energy, held virtually on 25–29 July, 2021, from USA, this book provides readers with extensive information on current research and future challenges in these fields, together with practical insights into the development of innovative services for various purposes.

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8689-8695 constitutes the refereed proceedings of the 13th European Conference on Computer Vision, ECCV 2014, held in Zurich, Switzerland, in September 2014. The 363 revised papers presented were carefully reviewed and selected from 1444 submissions. The papers are organized in topical sections on tracking and activity recognition; recognition; learning and inference; structure from motion and feature matching; computational photography and low-level vision; vision; segmentation and saliency; context and 3D scenes; motion and 3D scene analysis; and poster sessions.

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Related to ids imaging development systems gmbh

grammatical number - Is the plural form of ID spelled ID's or ID Yes, it can depend on the style guide you're using, but since you're clearly not using a style guide, the plural of cat is cats, and the plural of ID is IDs. Simple as that

Indicate vs Indicates - English Language & Usage Stack Exchange The test ids ARB1 and ARB2 indicate (s) that two different samples were used, rather than representing different test methods. My colleague is of the view that the subject

How should the abbreviation for "identifier" be capitalized? I'm a programmer and I often see the abbreviation ID (capitalized) in technical documents and code. Is this correct, or should it be id?

What is the etymology of ID (or I.D.), as in something used for Most dictionaries state "ID"/"I.D." as an abbreviation for "identification" rather than "identity", so it's no surprise that Etymonline directs I.D. "specifically" to "identification". E.g.

What is the word for someone who checks ID cards before What about in non-bar contexts? In San Francisco, the Sundance Kabuki is an upscale movie theater that serves alcohol for some screens, and they have a person checking IDs at a

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Is it acceptable to drop the comma in "Thanks, John"? Commenting 12 years later From the perspective of descriptive linguistics, I would say that "Thanks John" is used by native speakers, moreso "Thanks John!" When you use it, don't use

Different forms of the abbreviations for "identification"? Both the NOAD and the OED report that ID is an abbreviation for identity, identification. They weren't carrying any ID. I lost my ID card. The term id is used in psychoanalysis, and Id is a

Is "Jack of all trades, master of none" really just a part of a longer Variants that are relative newcomers As for the suggested longer expression "Jack of all trades, master of none, but better than a master of one," the earliest matches I could find for it are two

What is the plural of "sir"? [closed] - English Language & Usage A security guard wishes to address multiple people respectfully at once. Does he say: Sorry, sir, but this ID is invalid. or Sorry, sirs, but your IDs are invalid. or

How to Open Device Manager in Windows 10 | Tutorials How to Open Device Manager in Windows 10 Device Manager displays information about each device. This includes the device type, device status, manufacturer, device-specific

Other Devices > AAP Server (?) shows question mark Is that listed under " Other " in Device

Manager? If so, see this post (thread) - Some entries in "Other Devices" are a mystery--can't figure them out. If so, yes, you are correct

Find, secure, or erase a lost Android device - Google Help To get help from the network finding your items on your Android device, set a PIN, pattern, or password. Your device’s most recent location is available to the first account activated on the

Be ready to find a lost Android device - Google Account Help Step 3: Check that Find Hub is on Check that “Allow device to be located” is turned on. When Find Hub is on, you can ring, locate, secure, and erase your lost device. Learn how to find, secure,

No audio device in device manager Solved - Windows 10 Forums No audio device in device manager I bought a cheap Dell Optiplex desktop PC for my mum to watch Netflix on her TV, it has SSD and HDMI out, so I thought it'll do the job she

Enable or Disable Touch Screen in Windows 10 - Ten Forums Enable Touch Screen in Device Manager 1 Open Device Manager. 2 Expand open Human Interface Devices. (see screenshot below) 3 Right click on HD-compliant touch screen,

Enable or Disable Network Adapters in Windows | Tutorials Enable or Disable Network Adapter in Device Manager 1 Open Device Manager. 2 Do step 3 (disable) or step 4 (enable) below for what you want to do

Turn On or Off Device Driver Automatic Installation in Windows 10 How to Turn On or Off Automatic Device Driver Installation in Windows 10 By default, Windows 10 will automatically search for, download and install driver updates when

Logitech mouse not listed in Device Manager - Ten Forums Logitech mouse not listed in Device Manager Hi, I have a Logitech MX Master 3S mouse with the Logi Options+ software installed which is supposed to install the drivers

What is "Devices Flow" ??? - Windows 10 Forums Yup. I'd like to know what is the purpose of devices flow.exe?

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