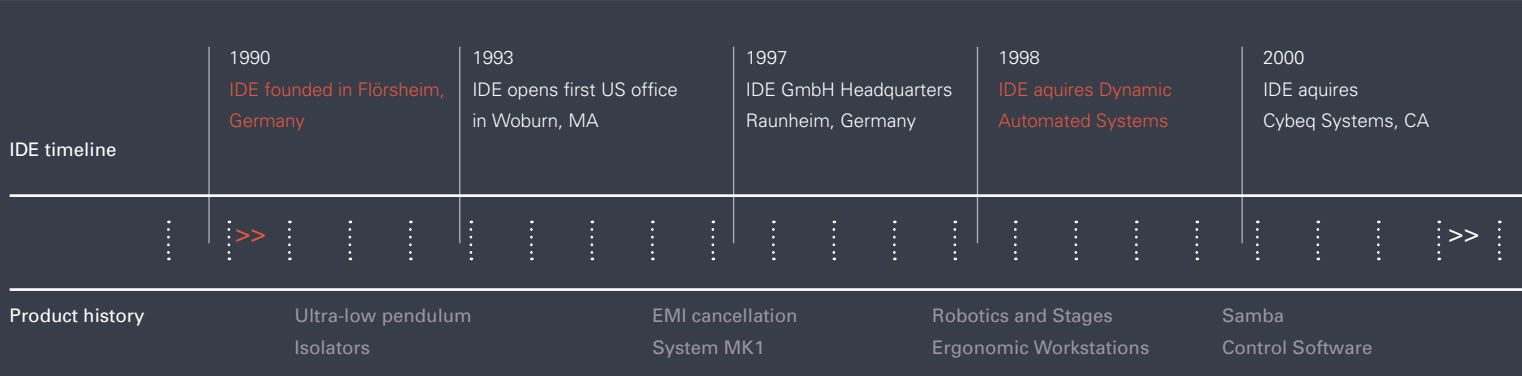
IDE

INTEGRATED DYNAMICS ENGINEERING

IDE profile


IDE timeline
1990
IDE founded in Flörsheim, Germany
1993
IDE opens first US office in Woburn, MA
1997
IDE GmbH Headquarters Raunheim, Germany
1998
IDE aquires Dynamic Automated Systems
2000
IDE aquires Cybeq Systems, CA
>>
>>
Product history
Ultra-low pendulum Isolators
EMI cancellation System MK1
Robotics and Stages Ergonomic Workstations
Samba Control Software

IDE Vision

IDEal solutions start with IDE

Integrated Dynamics Engineering (IDE) is dedicated to engineering a high degree of technical creativity and originality into every system it designs, develops and manufactures for end-users and OEMs.

- Active/Passive Vibration Isolation Systems
- EMI Cancellation Systems
- Acoustic Isolation Enclosures
- Robots and Material Handling Systems
- Workstations, Tables, Foundations
- Customized Solutions for Unique Applications

Today, with a global reputation for excellence, this innovative energy remains at the core of IDE's ongoing success in Europe, the United States, the Middle East, and Asia.

With key locations in Frankfurt, Boston and Tokyo, IDE is a company of the Aalberts Industries N.V. group.

Creating the IDEal Environment

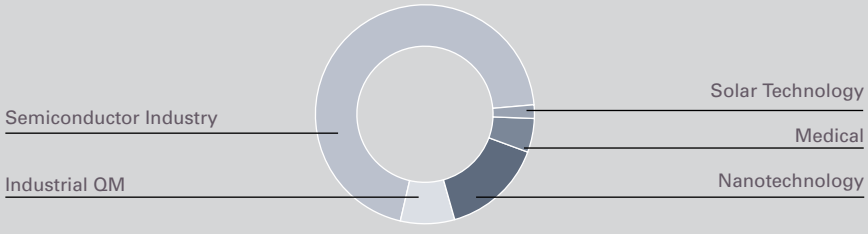
The highly successful technical journey of Integrated Dynamics Engineering began in suburban Frankfurt, Germany, in 1990, as a privately-held company with a dedicated core of bright, young engineers.

Concentrating from the start on producing an ever-evolving stream of truly unique environmental disturbance control – and later, with a well-planned strategic move into robotics and material handling – there is now a totally matured IDE with an enviable reputation and a roster of distinguished clients worldwide.

More versatile, and more effective than ever, the IDE network remains a leader in providing extraordinary, state-of-the-art integrated support technology to a broad array of customers and applications. This includes cutting-edge research and development laboratories, blue chip scientific and medical corporations, distinguished universities, world famous government organizations, and original equipment processing and manufacturing companies.

Leading OEMs and end users worldwide have come to depend on the unique solutions IDE can provide to create ideal environments in their laboratories, clean rooms, and production facilities – counteracting a broad spectrum of vibration, acoustic and electromagnetic interference.

Market Segments: Focusing on highly specialized areas of technology world-wide, has made IDE an exceptional resource for optimal problem solving.



IDE Company Profile

Within IDE's strong customer base are the world's leading semiconductor manufacturers, with IDE environmental controls, robotics, and material handling systems setting performance standards from Silicon Valley, throughout Europe, in Israel, and on to the Pacific Rim.

Nanotechnology, biomedical, pharmaceutical, and solar energy projects have joined the ranks of companies aligning now with IDE.

In building an ever-evolving network of unique solutions and support, IDE has kept pace with, and often exceeds, the technical demands of cutting-edge researchers, developers, and manufacturers in the world's most advanced business and educational sectors.

Semiconductor Manufacturing

IDE has been supporting leading OEMs in this worldwide sector for decades.

Nanotechnology & Advanced Scientific Research

Stabilizing performance in this highly precise environment has been an IDE trademark.

Industrial QM

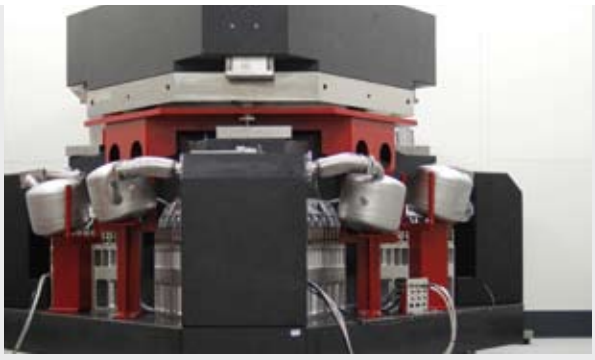
Leading Business look to optimize CMM, surface handling, precision assembly.

Biomedical and Pharmaceutical

Where extraordinary precision is paramount, IDE is often the partner of choice.

Solar Energy Technology

As new technologies emerge in a greening world, IDE supports the innovation.



IDEal analysis, production, quality control.

Innovation, Precision and State-of-the-Art Technical Solutions are IDE Hallmarks

The core of IDE's technical accomplishments has always been an unwavering dedication to uncompromised precision. Year after year at IDE, this precise evolution is seen in the analysis, planning, designing, production, installation, and long-term support given each customer worldwide.

To meet these superior standards, IDE is constantly refining its processes. Cleanrooms at IDE are upgraded regularly to meet current industry specifications; IDE research and development laboratories keep evolving; the production and manufacturing sectors of IDE undergo daily supervision and are routinely reformatted to accommodate the current challenge. For nearly 20 years, IDE has continued to be an extremely successful work in progress.

IDE's site surveys are highly focused and efficient. IDE's simulation, prototyping and testing yield unprecedented clarity. IDE's engineering skills often bring unique insight and functionality to every phase of the problem/solution formula. And when IDE systems are ready to take shape, when sub-systems arrive from highly controlled top-of-the-line suppliers, when final production and rapid shipping to an array of demanding customers have taken place, the IDE technical core of quality is apparent in every feature, no matter how small.

IDE's Technical Tool Box:
Predictive Modeling,
Matlab, ANSYS,
Mathcad, dSpace,
Precise Prototyping.
Pro-Engine CAD,
Simulink

Highest quality CNC production
at IDE business partners
for maximum precision.

On Site Measurement
Project Management worldwide

State of the art development tools
for modeling and design

Production
philosophy

Customer
Benefits

Working Together
Attains All Goals

Disciplined Design
Meets All Specs

Achieving Optimal
Price/Performance

IDE Company Profile

IDEal standards yield IDEal results.

Seismic Shaker Facility

One of the newest additions to IDE's comprehensive testing process is an advanced seismic shaker system. Calibrated to extremely precise tolerances, it enables IDE engineers to simulate virtually any vibration disturbance measured at a customer's location during an IDE site survey. Duplicating the vibration interference in-house, it assures IDE engineers that the IDE vibration isolator modules developed for that project eliminate the disturbance to the instrument.

Disciplined Production Lines

Whatever system is traveling through the IDE production process – vibration isolation modules, EMI cancellation, Robots, EFEMs – each is subject to the highest scrutiny by IDE professionals in cleanrooms, assembly areas, packing, shipping, and delivery.

At the off-site specialty firms that produce IDE components the same rigid standards are maintained.

Prototype development
ERP System workflow

Expert prototyping lets
IDE fully analyze design.

6 DOF Seismic Shaker Facility
for Vibration problem analysis,
Testing and Simulation

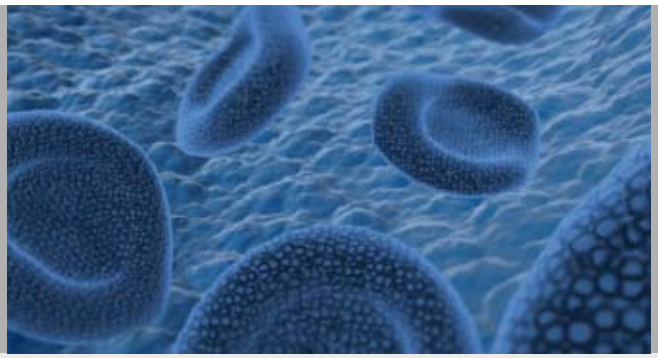
IDE links module performance
to vibration controls.

Production Line for Isolators
Class 10 cleanroom
and Robotics + EFEM Systems

Throughout production
IDE maintains rigid standards.

ISO testing adds to
IDE reliability.

Quality control at IDE is a constantly
evolving, non-stop discipline.



VIBRATION CONTROL

Lithography, Inspection, Metrology, Microscopy, Ion Implanters,
SEM/ TEM, Microtroms, SPM
Measurement Machines (Gantry, Bridge, Cantilever CMM) Optical Inspection

Over nearly two decades of growth, IDE has developed the largest base of active and passive vibration control components and systems in the world. Today, wherever vibration is a key concern – from electron microscopy, to micro-lithography, metrology and more – IDE is called upon as the highly experienced problem-solver.

NGI Family Of Next Generation Isolators

Considered by many to be the most significant advance in vibration isolation technology today, IDE's NGI family of Next Generation Isolators is based on the concept of integrating unique, high vacuum compatible air mounts into rugged, yet extremely sensitive systems. Compact and scalable with a 400 to 2000 kg load capacity per isolation unit, NGI solutions deliver a truly high-end performance every time.

TCN Series Isolation Modules

The TCN family of active vibration control solutions has been the hallmark of IDE's isolation technology leadership for a decade and more. With over 10,000 systems installed, the majority of the world's lithography and metrology tools rely on IDE to provide a stable, vibration-free base. Using seismic vibration sensors and linear motors together with IDE's MAX-CON control units, TCN modules achieve standard-setting inertial motion control, stage force suppression and floor motion feedforward control.

TAW Modules

For cleanrooms and high center of gravity systems, IDE's unique hybrid isolation design of the TAW 600 and TAW 1500 can handle payloads from 600 to 1500 kg, with active vibration isolation from 1 Hz. The TAW is 100 times stiffer than conventional pneumatic isolation systems.

STAND ALONE ISOLATION MODULES
ISOLATION SYSTEMS AND PLATFORMS
FOUNDATION CONTROL
TABLETOP SOLUTIONS AND WORKSTATIONS
EXPERIMENTAL TABLES
CUSTOM SOLUTIONS

EMI CANCELLATION AND ACOUSTIC ISOLATION

Magnetic Resonance Imaging MRI, SEM/TEM Microscopy
Electron Beam Lithography, Focused Ion Beam FIB

For research and development laboratories in corporations and universities, and for the medical imaging community worldwide, IDE provides environmental disturbance control systems to optimize today's most advanced, most sensitive instruments operating in challenging locations.

MK4 State-Of-The-Art EMI Cancellation

IDE's evolving technology in the MK Series of EMI Electro Magnetic Interference cancellation systems overcomes daunting disturbances in the field. MK 4 Systems operate with the most advanced Scanning Electron Microscopes (SEM) to enhance total tool performance.

ANC Active Noise Cancellation

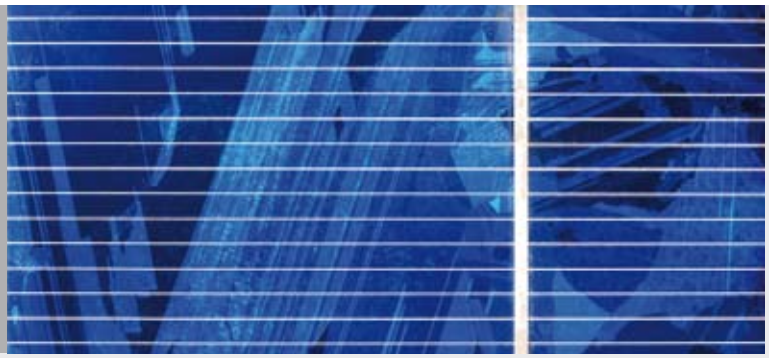
Highly effective IDE acoustic enclosures provide outstanding active noise cancellation using anti-noise-generating loudspeakers microphones and proprietary IDE digital control technology. They effectively protect sensitive systems from ambient, outside disturbances, such as airflow buffeting, operator noise, and temperature fluctuations. ANC enclosures meet Class 1 cleanroom requirements.

MK 4 EMI Cancellation

IDE's new generation MK 4 now delivers an even more impressive performance with cutting-edge enhancements to its active, analog and digital controls that protect highly sensitive microscopy and medical instruments with unprecedented DC and AC disturbance safeguards.

ANC Acoustic Enclosures

IDE's unique active noise cancellation hybrid, the ANC Series of acoustic enclosures, efficiently addresses the frequency range from 5 to 200 Hz; a lightweight panel design takes over from 100 Hz on.



ROBOTICS, MOTION CONTROL AND COMPONENTS

IDE provides innovation with speed and accuracy.

IDE's proven robotic and material handling technologies combine advanced control concepts with IDE's state-of-the-art robotic trajectory planning and motion control software. Totally coordinated, these meet the semiconductor industry's demands for higher throughput, maximum reliability and greater up-time in 150, 200, and 300 and 450 mm formats.

Dual Arm Robots For Precision

IDE's DAR robots deliver fast, safe, highly accurate placement with a minimum of payload vibration. With a small footprint, compact mechanics and robust components, the DAR is ideal for advanced wet bench equipment.

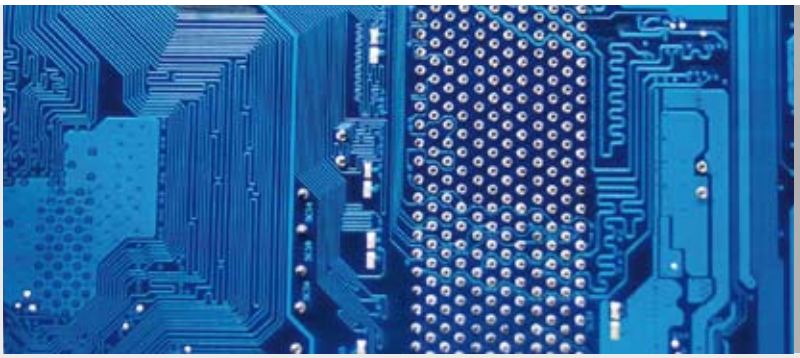
Advanced Mechanical Bearing Stages

AMB XY-stages developed by IDE accommodate almost every budget and application. They can be custom tailored for speed, accuracy and precision. IDE provides an array of drive mechanisms, including stepper motor drives operating in conjunction with lead screws, DC servo motors, and brushless linear motors. For more demanding applications, IDE has advanced IDE air bearing stages combining high-resolution scanning with the high throughput and precision.

DAR 300 Robot

The highly accurate, high throughput DAR 300 Dual Arm Robot from IDE combines unprecedented placement with a large payload capacity and minimum vibration. The DAR 300 features a small footprint, proprietary controller technology, and is better than Class 1 compatible (ISO).

3 AND 4 AXIS ROBOTS
WAFER PRE-ALIGNERS
LINEAR TRACK SYSTEMS
BOLTS COMPATIBLE LOADPORTS
EFEM SOLUTIONS
MOTION CONTROL MODULES
XY-STAGES



EFEM SOLUTIONS

IDE achivies standardized interfacing and material handling requirements.

The ultimate examples of IDE innovation and technical superiority in developing material handling systems for the semiconductor market are clearly seen in the prestigious IDE line of EFEMs, Equipment Front End Modules. Here, the best of IDE is incorporated into sophisticated systems that provide 150, 200, 300 and 450 mm wafer handling at high speeds for high throughput, with optimal precision, safety and up-time.

IDE's proven robotic and material handling technologies combine the most advanced control concepts with IDE's state-of-the-art robotic trajectory planning and motion control software to meet all semiconductor requirements.

IDE's EFEMs come in a variety of configurations. These include the DUOFEM, a double FOUP design; TRIFEM with three FOUPs; and QUADFEM with four high performance FOUPs – all incorporating superior auxiliary support systems.

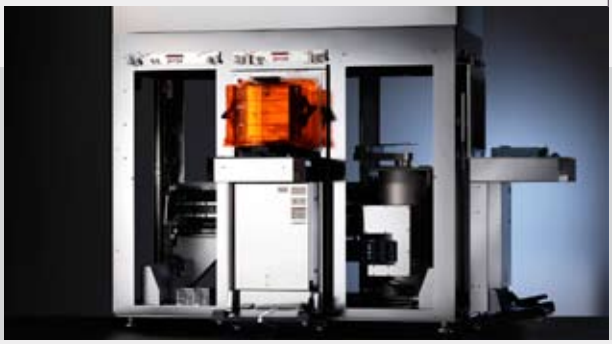
At the core of IDE's EFEM technology are innovative robots and versatile stages.

At IDE, we strongly believe it best to control all the required designing in-house – mechanical, electronics, and/or software.

IDE TRIFEM

TRIFEM is but one of a long line of automation and robotics featuring a unique combination of IDE technology tailored to special needs. The systems include an array of IDE robots, XY-stages, prealigners, and scanners connected to a host PC or to each other. Controls include Windows-based communication servers and multi-processor architecture with standard PC-technology.

EFEM, DUOFEM,
TRIFEM, QUADFEM
LOADPORTS
TRACK SYSTEM
ROBOT VERSIONS



IDEal Total Systems Integration

IDE engineers integrate systems into one perfectly coordinated effort.

With a unique combination of IDE vibration isolation, acoustic shielding, and EMI cancellation systems, integrated with IDE robotics, material handling systems, XY-stages – all matched to a customer's core technology – IDE designs and engineers unique, comprehensive systems for precision performance.

IDE Meets All Your Requirements

Customers can select individual components to serve as sub-systems. Or request IDE to design a wholly integrated system, with IDE assuming complete responsibility.

IDE Works With You For Optimal Results

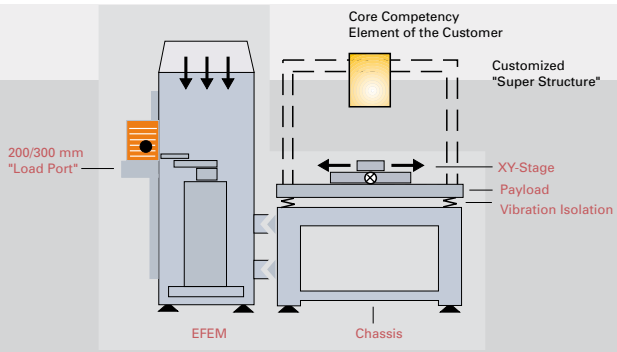
IDE becomes a dedicated member of your team – developing, refining, integrating all components and technologies into a virtually flawless solution. IDE goes on-site and integrates the system seamlessly into your process.

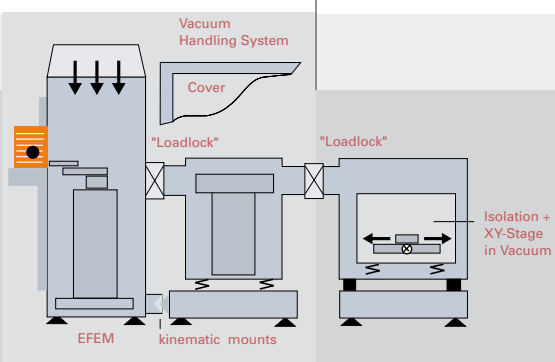
IDE Makes System Communicating Easy

IDE offers a choice of communications. These range from easy-to-use RS232, through Windows COM/DCOM based servers, to high speed Ethernet. Various IDE robots and IDE accessories, like XY-stages, prealigners, and scanners, can be connected to a host PC or to each other.

IDE Integration

Show here are the basic functions common to almost every semiconductor system. IDE has the proven experience and a wide range of state-of-the-art solutions to bring these various functions to the high performance levels under ambient and vacuum conditions.





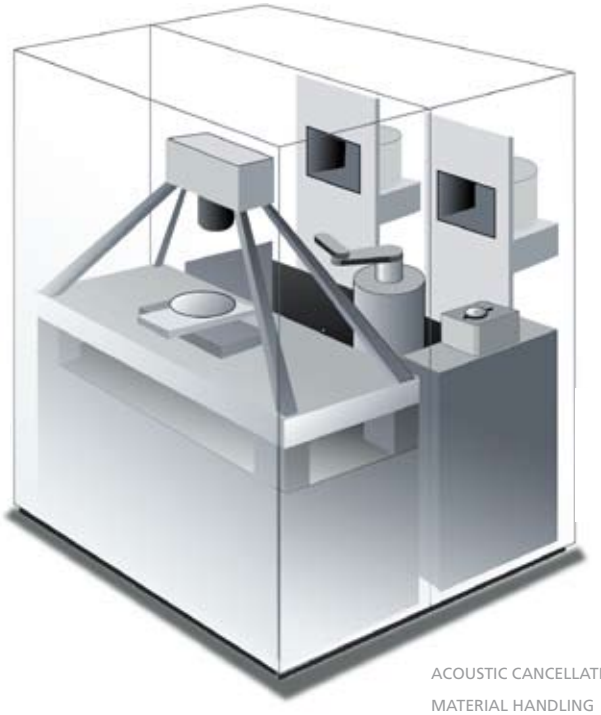
IDE System Integration

More Choices, Better Performance From IDE

For a more distributed environment, IDE has Windows-based communication servers, using standard PC technology to communicate with each other, based on the COM/DCOM protocol. Highly advanced integrated systems can be built using a multi-processor architecture with standard PC-technology in combination with PCI-based control boards. Another option is extending the system with a local User Interface to monitor and/or change the system's configuration settings. PCI based controllers can be plugged into a standard industrial PC.

IDE Integration Achieves Highly Individual Results

Long after IDE develops and delivers precisely customized systems, IDE continues to review all the evolving technology standards that keep these systems up to date, assuring customers of dependable long-range performance.



ACOUSTIC CANCELLATION
MATERIAL HANDLING
MOTION CONTROL
VIBRATION ISOLATION
ROBOTICS, FOUPS
EMI CANCELLATION

IDE Worldwide

IDEal Locations Around The World

IDE's highly responsive global network is ready to serve at any time

You are never too far from the benefits of working with IDE. With a highly responsive network of sales offices and manufacturing facilities strategically located around the globe, you can easily interact with IDE without delay.

For nearly two decades, we have been serving customers coast-to-coast in North America, throughout Europe, Israel, the Mid-East and the Pacific Rim. Our service and support are virtually non-stop, keeping you on time and on target.

FOR THE AMERICAS
INTEGRATED DYNAMICS ENGINEERING, INC.
68 MAZZEO DRIVE
RANDOLPH, MA 02368, USA
PHONE 1 (781) 326 5700
FAX: 1 (781) 326 3004
INFO@IDEWORLD.COM

FOR ASIA AND AUSTRALIA
INTEGRATED DYNAMICS ENGINEERING LTD.
1-2-4 KAMISUNA-CHO,
TACHIKAWA-SHI TOKYO 190-0032, JAPAN
PHONE +81 42 535 7303
FAX: +81 42 535 7304
INFO@IDEWORLD.COM

FOR EUROPE AND THE NEAR EAST
INTEGRATED DYNAMICS ENGINEERING GMBH
KARL-LIEBKNECHT-STRASSE 30
D-65479 RAUNHEIM, GERMANY
PHONE +49 6142 9400 0
FAX: +49 6142 9400 99
INFO@IDEWORLD.COM

FOR ISRAEL
INTEGRATED DYNAMICS ENGINEERING
32 HA'PRAHIM STREET
RA'ANANA 43399, ISRAEL
PHONE +972 52 739 3606
FAX: +972 9 745 0267
INFO@IDEWORLD.COM

Territorial Segments – consolidated

Europe incl. Israel 55 %
North America 40 %
Pacific Rim 20 %

2001
IDE US moves to
Westwood, MA

2003
IDE worldwide with
over 150 employees

2006
IDE US opens consolidated
new Headquarters in Randolph

2007
IDE, Ltd. opens
in Tokyo, Japan

2008
IDE joins
Aalberts Industries

IDE timeline

TCN Active Family
Edge Gripping Systems

Dual Arm Robot
Track system

Wafer Packer
Wafer Sorter

Trifem System
Opticon 1000

Product history

INTEGRATED DYNAMICS ENGINEERING

www.ideworld.com