

DATA MODUL

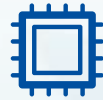
THE DISPLAY EXPERTS



DISPLAY



TOUCH



EMBEDDED



SYSTEMS

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COMPETENCE, SERVICE & INNOVATION – VISUAL SOLUTIONS FOR THE INDUSTRIAL FUTURE!

Displays form the optical connection between man and machine and are still the most important interface for interaction, exchange and operation of diverse applications.

Since our founding in 1972, we at DATA MODUL have consistently pursued the goal of always being able to offer our customers tailor-made and individually customized complete solutions of the highest standard in the field of display technologies, regardless of the degree of complexity.

This also means that we continuously expand and improve our product portfolio, our technologies and manufacturing processes thanks to constant development. With many years of experience in the field of display, touch, embedded and system technologies, we can meet the current and future requirements of international markets more than ever. And at our state-of-the-art research and production sites, nearly 500 employees work on display technologies and visual solutions for today and the future!

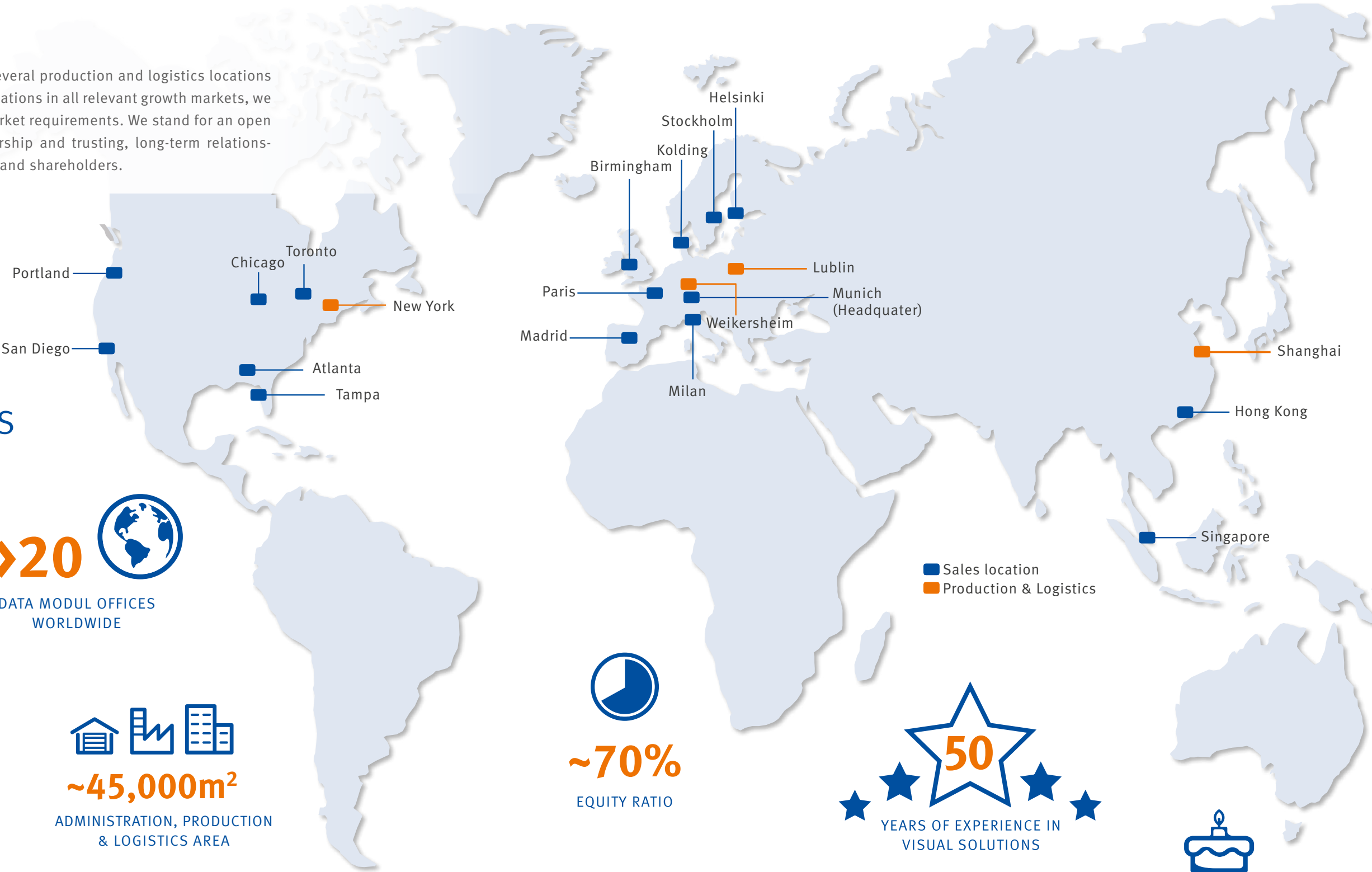
Only DATA MODUL offers everything from a single source: expert advice, new and in-house developments as well as customer-specific solutions. This makes us one of the leading providers of display and system solutions in the international market. We stand for quality, innovation, reliability and best advice – for our products and for our customers. We shape the future of visual solutions. Because we are the display experts!

DATA MODUL
THE DISPLAY EXPERTS

DATA MODUL WORLDWIDE

With our headquarters in Munich (Germany), several production and logistics locations in Europe, Asia and the USA, as well as sales locations in all relevant growth markets, we are ideally positioned for current and future market requirements. We stand for an open corporate culture, responsible company leadership and trusting, long-term relationships with our customers, suppliers, employees and shareholders.

Our company focus is on financial strength and sustainable, profitable growth. All this makes us a reliable and competent partner for state-of-the-art display systems.



> 5,000
Displays

IN OUR PORTFOLIO

>20

DATA MODUL OFFICES
WORLDWIDE

>45,000m²

ADMINISTRATION, PRODUCTION
& LOGISTICS AREA

INVESTMENTS IN THE LAST 5 YEARS

>23 millions

>500

WORLDWIDE EMPLOYEES

>70%

EQUITY RATIO

EMPLOYEES FROM

>28

NATIONS WORLDWIDE

50

YEARS OF EXPERIENCE IN
VISUAL SOLUTIONS

>200

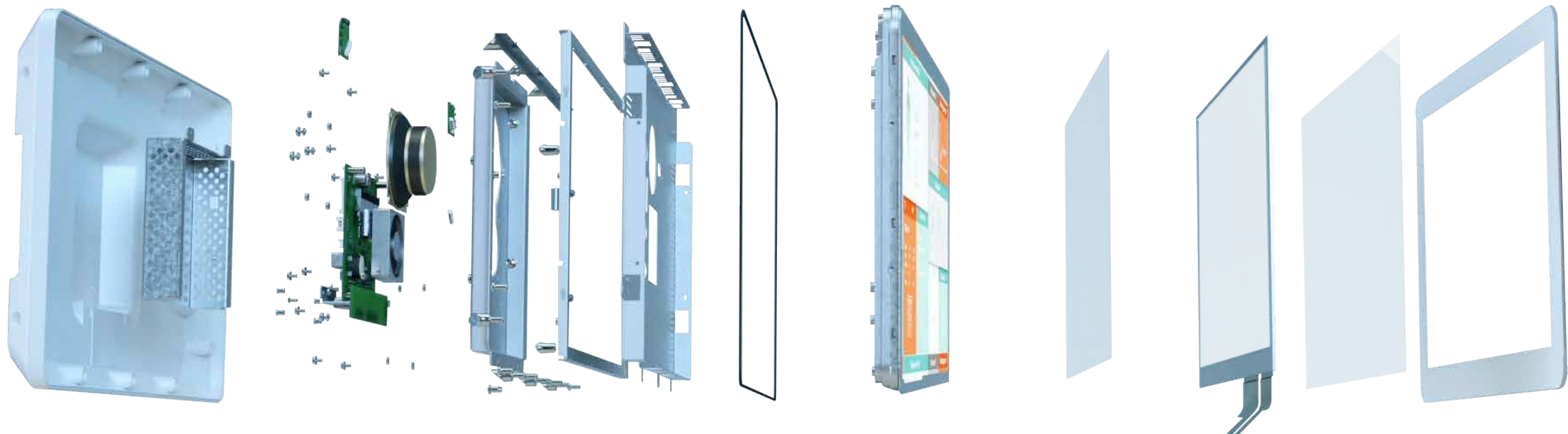
REVENUES
IN MILLION EUROS

>8.1

YEARS OF AVERAGE
COMPANY SENIORITY

PRODUCT SEGMENTS OVERVIEW

High-tech is not just a buzzword for us, but the basis of our success. In addition to our constantly developed products, we also offer a particularly broad product portfolio for all kinds of industrial and professional applications. Our products can be found in a variety of modern, special and ubiquitous applications.



SYSTEMS

- Open frame, rack mount, stand-alone, rugged monitors & panel PCs
- Up to IP 68 protection
- Information systems & signage solutions
- OEM solutions and fully customized solutions
- Modular design from chassis monitors to certified devices
- Market-specific design options
- Consulting and development services

EMBEDDED

- Computer on modules (COM)
- Carrier boards
- Single board computer (SBC)
- Embedded box PCs
- eMotion LCD controller boards
- Fully customized solutions
- Embedded computing design
- x86 and ARM architecture-based embedded solutions
- Software development

DISPLAYS

- Wide range distribution portfolio of leading display manufacturers
- All kinds of display technologies available (TFT, OLED, LED, elnk, etc.)
- Sizes from below 1" up to 110"
- Sunlight readable and monochrome displays (transflective, anti-reflection film)
- Comprehensive technical support
- Product strategy based on industrial applications
- Assembly with touch screen, driver electronics and housing
- Customized displays and passive displays
- In-house long-term high temperature testing

TOUCH

- Projected capacitive (PCAP), resistive, infrared, surface capacitive and surface acoustic wave (SAW) touch technologies
- Sizes from 1.0" to 86"
- Standard and custom cover glass with anti-reflective or anti-glare treatment
- Optical bonding of touch, glass and displays
- FAE support



DISPLAY SOLUTIONS

We are one of the world's leading display technology partners and Europe's market leader in industrial displays.

With our extensive distribution portfolio of all leading manufacturers we can efficiently serve almost all customer requirements.

This enables us to create a platform for modern and innovative application designs and sustainably pursue our product strategies, which are oriented towards industrial applications.

For the perfect implementation of visual communication between man and machine, our professional services such as long-term availability, spare parts service and lifecycle management, are the ideal complement to our range of consulting and services.



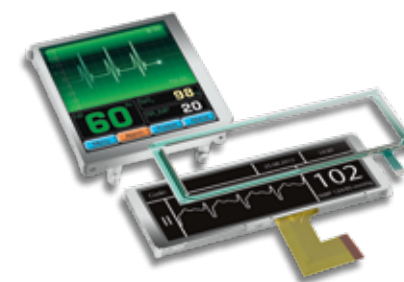
DISPLAY PORTFOLIO

In the field of display distribution, we offer a variety of display sizes, shapes and technologies. Our standard distribution portfolio always includes the most important display technologies. TFT, passive, MIP, ePaper and also OLED are an essential part of our portfolio. In addition, our customers can also rely on solutions in partly and completely individualized display design.



DISPLAYS

- › Portfolio of leading display manufacturers
- › Wide range of display technologies like TFT, graphic, alphanumeric, ePaper, MIP, OLED
- › Diagonals from below 1" up to 110"
- › Product strategy based on industrial applications
- › Professional PCN/EOL processes
- › Comprehensive technical support



CUSTOMIZED DISPLAY SOLUTIONS

- › Any shape, aspect ratio and color
- › Active / passive OLED and ePaper
- › Extended temperature ranges
- › Ultra low power displays
- › Improved sunlight readability
- › Long-term availability



VALUE ADDED DISPLAYS

- › Touch displays with various technologies like projected capacitive (PCAP) and resistive
- › Chemically hardened or heat-strengthened cover glasses with customized printing
- › Various surface treatments (anti-reflective, anti-glare etc.)
- › Optically bonded and laminated solutions
- › Pre-programmed and configured controller kits
- › Accessories like cables or backlight converters



CUSTOMER ADVANTAGES

- › Professional lifecycle management
- › Long-term availability
- › Complete technical support
- › After-sales services
- › RMA process
- › Spare parts service
- › Short lead times

COMPETENCIES

Our industry expertise, our market know-how, and our experience in all display technology areas make us the perfect partner for professional display solutions.

We support our customers in the entire product process: from consulting to development to series production. But beyond that, we also offer perfect after-sales support and, thanks to many years of supplier relationships, state-of-the-art finishing methods and professional life-cycle management ensure sustainable and efficient display solutions.

OUR SUPPLIERS (in alphabetical order)

For many years we have been one of the largest contract partners of leading display manufacturers. When selecting our suppliers, flexibility, innovative capability, long-term availability and attractive conditions play a decisive role.

AUO

BOE

EVERVISION

HannStar

INNOLUX

KOE

KYOCERA

LG
Life's Good

ORTUSTECH

POWERTIP

SHARP

TIANMA

VARITRONIX

TECHNOLOGIES

Our aim is always to be able to provide suitable technologies for every customer requirement. The latest display technologies, diverse display sizes and formats, as well as the ability to offer semi as well as fully customized solutions, form the foundation on which we build our expertise.



TFT DISPLAYS

- › Standard TN panels and wide-view TFT displays
- › High-brightness displays
- › Transflective, transmissive, reflective displays
- › Sunlight readable display technologies
- › Extended temperature range
- › Low power consumption
- › Dedicated PID and medical panels



PASSIVE DISPLAYS

- › Alphanumeric LCD modules
- › Graphic LCD modules
- › Various technologies like STN, FSTN, ASTN, FFSTN, VA
- › Transflective, transmissive and reflective display modules
- › Different backlight colors
- › Low power consumption



MIP DISPLAYS

- › Ultra low power consumption
- › Reflective TFT readable in full sunlight
- › Simple to interface by SPI
- › B/w or color versions available
- › Industrial temperature range



ePAPER

- › Extremely low power consumption
- › Excellent visibility from all viewing angles
- › Bistabil, i.e. images remain after power is switched off
- › Easy interfacing



OLED DISPLAYS

- › Highest optical performance
- › Low power consumption
- › Extremely slim
- › Different monochrome colors
- › Full color types
- › Free of viewing angles



TOUCH SOLUTIONS

Touch solutions are an essential part of our product portfolio. As a leading supplier of PCAP Touch modules, all common bonding technologies are available. We focus on proprietary touch sensors and controller boards for a perfect touch experience. We offer complete PCAP / PCT solutions (Projected Capacitive) - consisting of touch sensor, controller, firmware, cover glass and optical bonding - all from a single source.

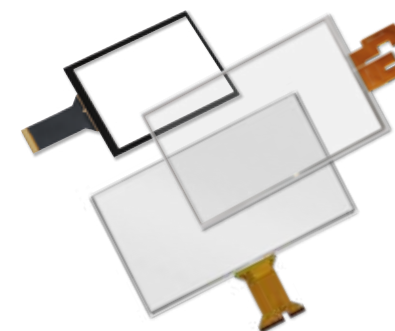
With our in-house developments of the easyTouch series, we can offer individualized solutions for customer-specific requirements and short lead times.

This makes us unique in the market and fits with our goal to consistently offer suitable and efficient solutions for touch screen products.



TOUCH PORTFOLIO

Our customers benefit from a comprehensive portfolio of configured capacitive and resistive touch sensors from leading manufacturers. Our self-developed easyTOUCH PCAP solutions have been specially developed for industrial applications with extended temperature range and long-term availability. Our touch portfolio is rounded off by a range of practical add-ons that includes optical encoders, joysticks and automotive interfaces.



TOUCH SENSOR

- › Various touch sensor technologies e.g. resistive, projected capacitive etc.
- › Standard easyTOUCH sensors covering sizes up to 32.0"
- › PCAP sensors up to 86"
- › Custom sensors
- › Standard resistive sensors up to 21.5"



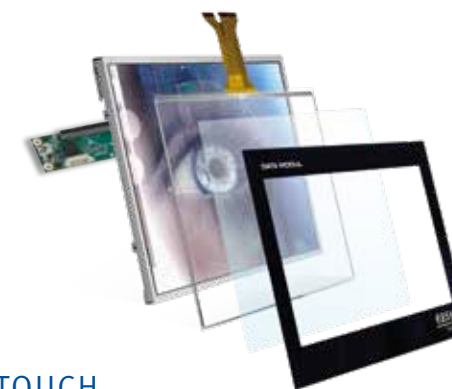
COVER GLASS

- › Standard and custom glasses
- › Different printing, strengthening, surface and mechanical treatments
- › Different materials like float glass, high ion exchange or plastic cover
- › In-house assembly and optical bonding



TOUCH CONTROLLER

- › Chip-on-Flex
- › RS232, USB and I²C controller boards
- › Latest MICROCHIP maXTouch and ILITEK PCAP-controller solutions enable multi-touch, glove and water operation
- › Supports all common operating systems
- › Tools for analysis and adjustments



easyTOUCH

- › Variation of easyTOUCH products
easy//TOUCH *easy//TOUCH+* *easy//TOUCH DISPLAY*
- › Off-the-shelf kits consisting of touch screen bonded to cover glass with or without display and controller board
- › Customized solutions for individual requirements
- › Short lead time for standard products



COMPETENCIES

Modern production and assembly facilities as well as continuous development ensure our demands on quality and sustainability for customer-specific touch solutions. As experts in the field of bonding (optical and tailbonding) and thanks to our comprehensive support and service, we are already developing optimal solutions together with our customers.

OPTICAL BONDING

- › Fully automatic optical bonding processes enable the bonding between touch sensor, cover glass and display
- › Improved optical and touch performance
- › Increased mechanical robustness
- › Automatic cleaning process
- › Automated optical inspection (AOI)

TAILBONDING

- › Electrical and mechanical connections between SITO touch sensor and FPC tail
- › Customized shape and length
- › Passive and active (chip on flex) tail
- › Full control over process parameters
- › Fully automated bonding and testing

SERVICE & SUPPORT

- › Cover glass, sensor, TFT and controller selection based on customer requirements
- › Software tools for configuration and signal analysis
- › Custom-specific touch controller settings
- › Support during EMC certification by specialized FAEs

CUSTOMER ADVANTAGES

- › One-stop-solution provider with multiple value-added options
- › Vast expertise in mechanical and design opportunities
- › In-house project management team
- › Overall process control with the latest production equipment



TECHNOLOGIES

PCAP Touch technologies and new, innovative touch operation extensions are part of our core competencies in the field of visual solutions. Not limited to PCAP technologies, we also offer up-to-date resistive touch screen products compatible with any industrial display applications. Our in-house developed PCAP touch solution “easyTOUCH” also offers a cost and time-efficient solution of the highest standard for a multitude of applications.



PCAP TOUCH

- › Real multi-touch up to 10 simultaneous touch points
- › High optical transparency
- › Operation through thick cover glasses
- › New design opportunities



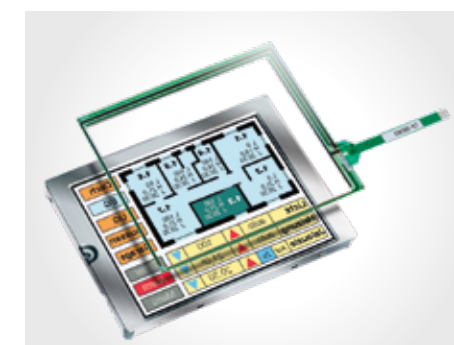
IN-HOUSE DEVELOPMENT

- › Film/Film, SITO and OGS sensors
- › Ultra narrow bezel design
- › Perfectly adjusted controller parameters by DATA MODUL engineers
- › Multi-touch, water and glove operation



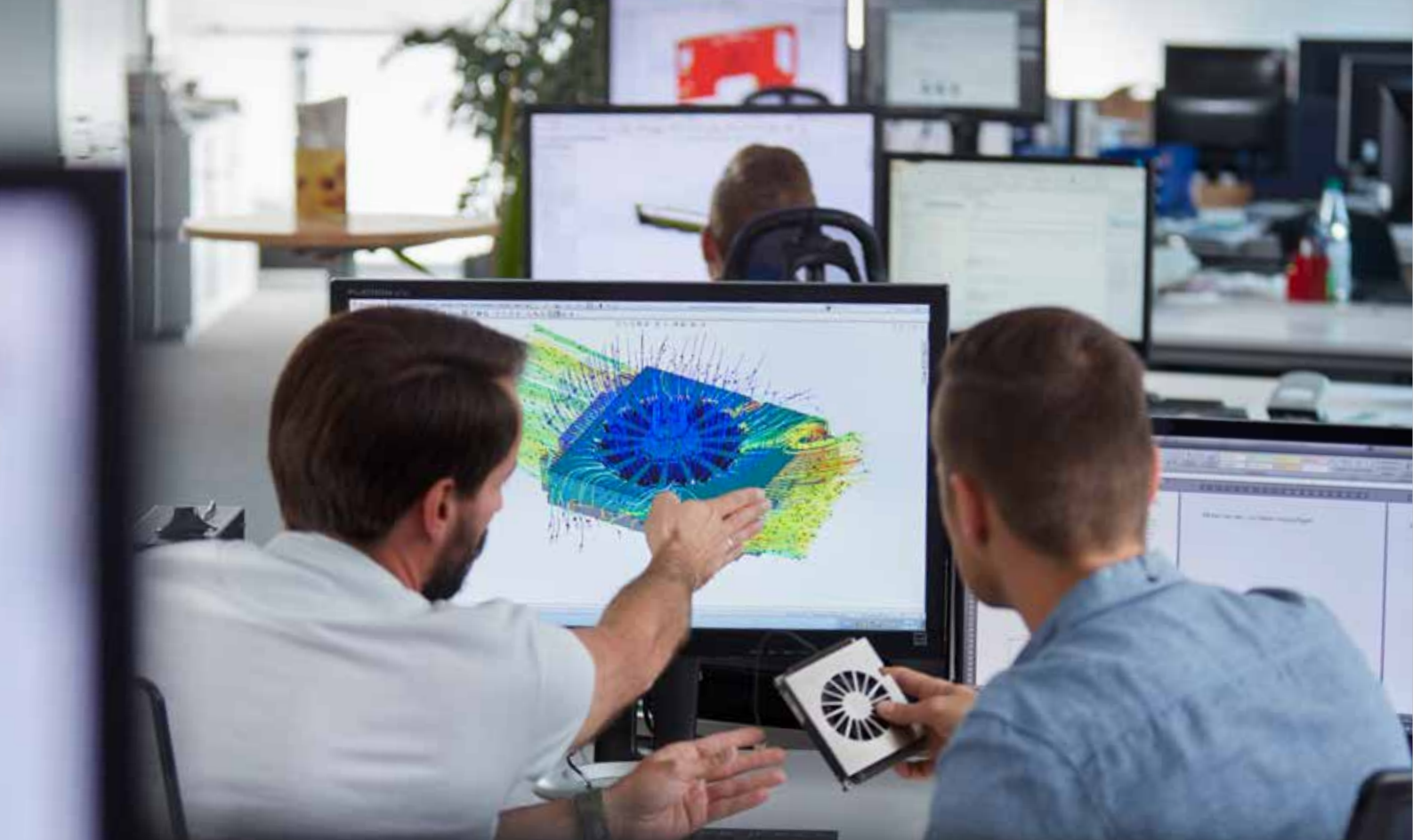
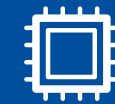
PCAP EXTENSIONS

- › Haptic feedback
- › Gesture recognition
- › Force sensing



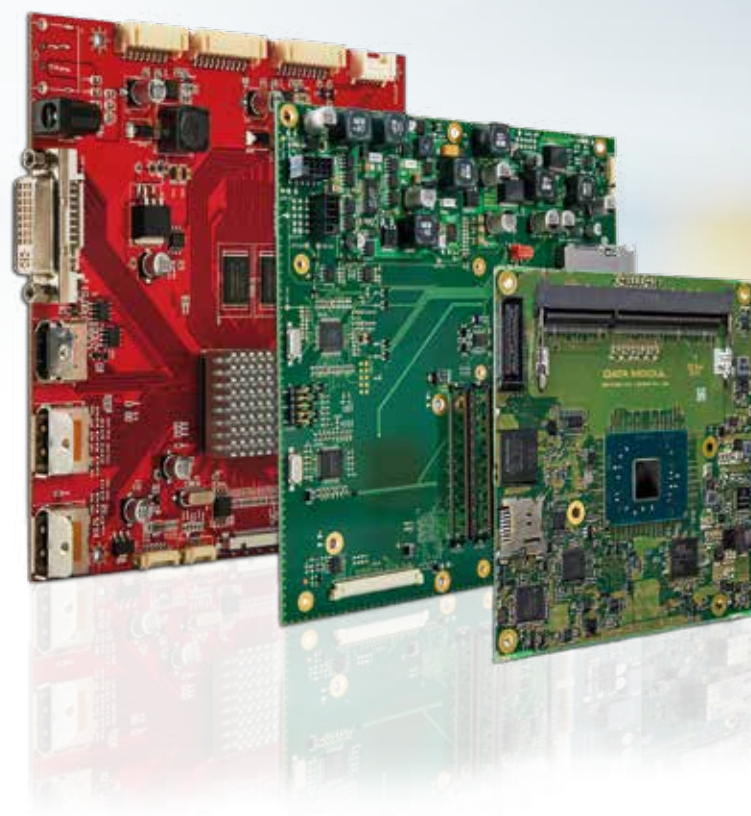
RESISTIVE TOUCH

- › 4-wire and 5-wire technology
- › Water resistance
- › Finger and glove operation
- › Easy implementation
- › Cost-effective



EMBEDDED SOLUTIONS

We offer perfectly configured embedded computer systems based on x86 and ARM architectures. From preconfigured kits to full custom baseboard designs or professional embedded computing designs – we offer the entire range of embedded solutions. Thanks to our own development teams, customer-specific baseboards or integrated CPU boards, displays and touchscreens can be implemented within a short time. Our continuous development ensures our scalability in the field of embedded computing and the ability to provide the latest modular embedded solutions.



EMBEDDED PORTFOLIO

We offer our customers a large selection of ARM and x86-based embedded CPU boards in various form factors and performance classes. From the preconfigured kit, consisting of an embedded board, display, customized cable set and specific OS image to completely individualized customer solutions. Our in-house developed LCD controller boards and display control kits from the eMotion series efficiently cover the complete range of embedded solutions.



x86/ARM-based COM/SBC SOLUTIONS

- › Large product portfolio of x86- and ARM-based embedded boards
- › Various form-factors and performance levels
- › Long-term partnership with world-leading manufacturers of embedded products
- › Intel-based COM Express® Modules
- › Single board computers & baseboard designs



EASYKIT SOLUTIONS

- › Pre-configured kits consisting of embedded board, display, adapter and cable set
- › Adaption and integration of all available displays (TFT-LVDS, TFT-TTL, eDP) incl. inverters, tested cables and adapted power ON/OFF timing
- › Customized images for embedded operating systems
- › Custom embedded OS services
- › Cooling solutions



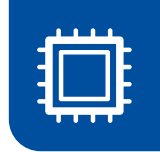
eMOTION LCD CONTROLLER BOARDS

- › High-end board solutions for displays up to UHD/4k resolution
- › Latest display interfaces and inputs
- › Fully configured plug & play kits with converter, power supply, cables and OSD board
- › Outstanding image quality



FULL CUSTOM BOARD DESIGN

- › Proven reference designs based on Computer-On-Modules
- › Building blocks for reduced development time and cost
- › All performance levels
- › ARM/x86/LCD Controller



COMPETENCIES

Computing design and software development are our core competencies in the area of embedded solutions. We also offer extensive services and support, and our experienced engineering teams support customers in developing high-quality solutions for industrial applications.

EMBEDDED COMPUTING DESIGN

- Standard and customized computer-on-modules, baseboard designs and single board computers
- Latest CPU platforms
- Latest professional measuring equipment
- R&D sites in Germany
- Thermal system integration
- System integration including display, touch sensor and certifications
- From low power single-core designs up to high-end multi-core solutions
- Part selection in consideration of cost, quality and long-term availability

SOFTWARE DEVELOPMENT

- BIOS/UEFI support
- Board support packages (BSP)
- Driver development, APIs
- Application Software
- Mainline-based Yocto Linux OS
- Programmable logic

SERVICE & SUPPORT

- Design validation
- Comprehensive technical support
- Compliance measurements
- Custom embedded OS services (WES8, WES7, WinXPe, WinCE6, WinEC7, WinEC2013, Win10IoT, Embedded Linux)

CUSTOMER ADVANTAGES

- Long-term availability
- Professional PCN/EOL processes
- In-house FAE teams and worldwide sales offices
- Long-term partnership with world-leading manufacturers of embedded products
- Adaption and panel timing integration of TFTs (validated settings for each TFT available)
- Accessories like memory modules, mass-storage and IO modules
- Customization based on standard products



TECHNOLOGIES

Irrespective of whether energy efficiency or high performance is required: for embedded systems, we offer a comprehensive portfolio of x86 and ARM-based embedded boards in a wide variety of form factors and in a wide range of performance classes. And with our professional full custom embedded design solutions we round off our distribution portfolio of leading global manufacturers.



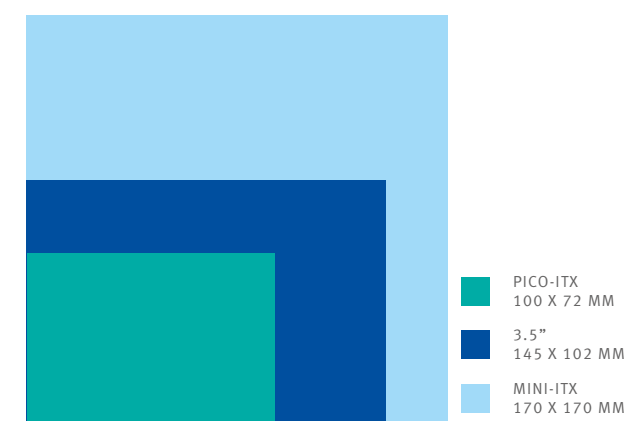
ARM

- Energy efficient
- Best cost
- NXP/Rockchip
- Fan-less
- Smallest form factor



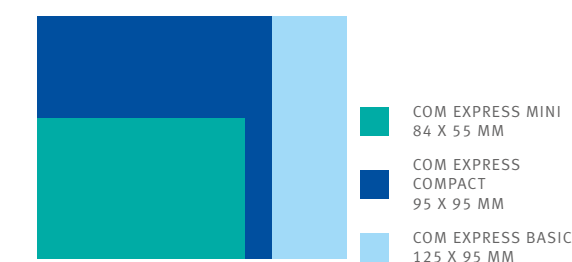
x86

- High performance
- DATA MODUL embedded controller (DMEC)
- Intel & AMD
- High-speed IOs
- Legacy support



SINGLE BOARD COMPUTER (SBC)

- Form factors, e.g. ATX, Micro-ATX, Mini ITX, Pico ITX, 3.5" and more
- "Off-the-shelf" solutions: no carrier board needed



COMPUTER-ON-MODULES (COM)

- Form factors, e.g. COM Express, Qseven, SMARC, Colibri and more
- Customer-specific carrier board



SYSTEM SOLUTIONS

For many years we have been designing, developing and manufacturing customer-specific monitor and panel PC solutions for a wide range of market-specific applications based on a modular product concept.

Our extensive know-how in the field of mechanical and electrical engineering, together with components from the distribution portfolio as well as our in-house developed products, enables us to respond in the best possible way to customer needs, ensuring long-term availability and significantly shorter time-to-market. This makes us the ideal partner for even complex and challenging product designs.

SYSTEM PORTFOLIO

Whether as an open frame, rack mount or desktop – our system solutions are used worldwide in professional applications and information systems with high quality requirements. Thanks to a modular concept, we offer a variety of customer-specific solutions for monitors and Panel PCs. In addition, we enable the rapid integration of embedded boards in OEM housing. And thanks to the variety of integrated touch technologies, there are almost no limits to customer-specific systems.

MONITORS

- › Open frame solutions for simplified integration into OEM housings
- › Rack mount monitors with IP front protection
- › Desktop monitors for industrial use
- › Up to 4K/UHD resolution, interface up to DP1.4, HDMI 2.0



PANEL PCS

- › Open frame panel PCs with various touch technologies
- › Rugged panel PCs for use under harsh environmental conditions
- › Stand-alone panel PCs for plug and play usage
- › Latest x86 and ARM platforms

OEM SOLUTION & SOFTWARE

- › Tailor-made housings to meet design requirements
- › RFID/NFC, Camera, Barcode scanner, approximate sensor, ambient light sensor, audio integration
- › Accessories like power supplies, cables
- › Content Management Software / Passenger Information Display Software
- › BIOS, custom OS and GUI development
- › Artificial intelligence





COMPETENCIES

Consulting, development and support as well as the latest manufacturing technologies are available to our customers for individual system solutions. With our services, ISO-certified processes and expert knowledge, we ensure an efficient and smooth product launch. And thanks to our support during the entire lifecycle we ensure successful project implementation.

CONSULTING

- › Individual consultancy, requirements analysis and concept definition
- › System upgrade and extension support
- › Mechanical engineering (conception to completion)
- › Material concepts, testing and selection
- › Electrical engineering (embedded computing design, wiring concepts, etc.)
- › Software and hardware development

MANUFACTURING FACILITIES

- › Production area of ~32,000 m² with flexible production lines
- › 1,200m² clean room class 7 according to ISO14644 for production steps requiring dust-free environment
- › Fully automatic optical bonding process (including gap filling, pick & place)
- › Cable assembly & pre-fabrication

SERVICE & SUPPORT

- › Remote service support
- › Project management from design phase to mass production
- › Technical support during product qualification and approval process
- › Individual logistics concepts worldwide
- › Maintenance and obsolescence management
- › Product adaptations based on existing systems
- › Hardware and software training
- › Turn-key solutions

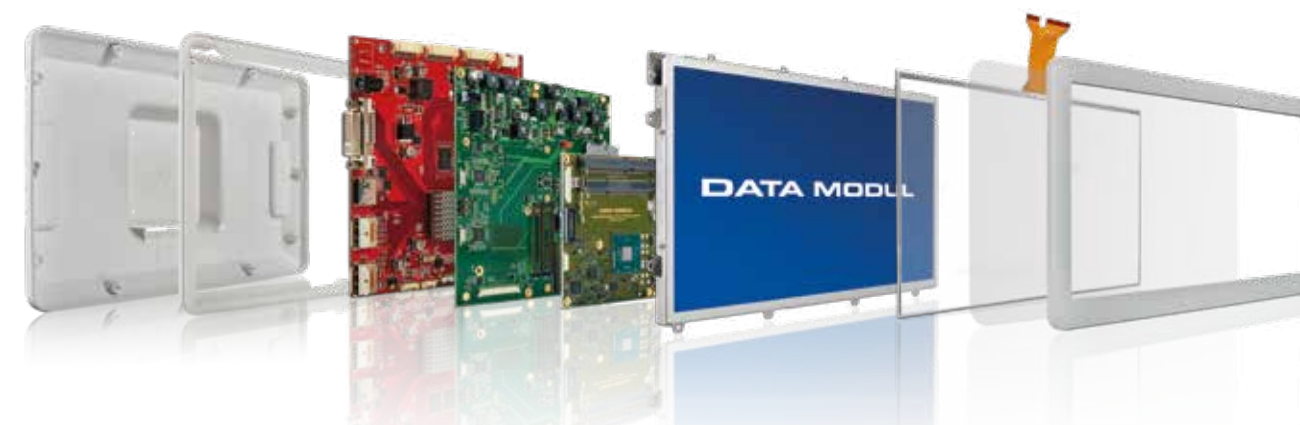
CUSTOMER ADVANTAGES

- › Customization from conception through to prototyping, all the way to mass production
- › Extensive experience in handling projects for demanding markets and environmental conditions, e.g. medical and marine
- › Comprehensive knowledge of the latest market trends in display technologies, embedded computing design and mechanical engineering



MODULAR PRODUCT CONCEPT

With our modular product concept, all technology areas of our company are combined into one system. Thanks to modern display technologies, state-of-the-art embedded boards and controllers as well as innovative touch-screen finishing methods and versatile housing variations, we offer real value-added services and solutions.



MECHANICS/HOUSING

- › Open frame solutions as well as screens with up to IP68 protected enclosures
- › Metal and plastic housings
- › Fully customized solutions
- › Customized mounting adaptors

DISPLAYS

- › Displays in various sizes from below 1" up to 110"
- › Wide range of TFT display technologies like TN, MVA, IPS
- › Curved and stretched displays
- › Different brightness levels
- › Extended temperature range
- › Up to UHD/4K resolution

CONTROLLER & EMBEDDED BOARDS

- › Large product portfolio of x86- and ARM-based embedded boards
- › eMotion LCD controller boards
- › Single board computer & baseboard designs
- › Computer-on-modules (COM) & carrier boards
- › Various form factors and performance levels
- › Customized board development

TOUCH SCREENS & COVER GLASS

- › Strengthened protection glasses
- › High-ion-exchange glasses
- › Customized printing and glass treatments
- › Various touch sensor technologies
- › Projected capacitive easyTOUCH solutions developed by DATA MODUL



TARGET MARKETS

Our products and solutions can be found worldwide in market-specific applications with special requirements. Based on the extensive product portfolio, we are able to meet even the toughest market requirements.



MEDICAL & HEALTHCARE

- > DIN EN ISO 13485
- > Auditing
- > Glove compatible solutions



DIGITAL SIGNAGE & POS

- > High-resolution displays
- > Special shapes e.g. stretched
- > State-of-the-art product housings



TRANSPORTATION

- > Vibration resistance
- > 24/7 operation
- > Extended temperature range



BUILDING TECHNOLOGY

- > Energy efficient solutions
- > Slim format
- > Obsolescence management



WHITE GOODS & HOUSEHOLD APPLIANCES

- > Long-life backlights
- > Slim format
- > Obsolescence management



PORTABLE APPLICATION

- > Ultra slim modules
- > Sunlight readable
- > Low power consumption



AUTOMATION & ROBOTICS

- > Low power consumption
- > High durability
- > Palm suppression



GAMING

- > High-resolution displays
- > Special shapes e.g. curved
- > State-of-the-art product housings



MARITIME

- > Shock resistance
- > Long-term availability
- > Obsolescence management



MACHINE-BUILDING INDUSTRY

- > Own design of long-life backlight
- > Multi-touch up to 10 fingers
- > Rugged cover glass



CONSTRUCTION & AGRICULTURAL MACHINES

- > Sunlight readable monitors
- > Extended temperature range
- > UV-resistant modules



AUTOMOTIVE

- > Sunlight readable monitors
- > Extended temperature range
- > Vibration resistance



PRODUCTION & MANUFACTURING

In our advanced production facilities, we manufacture professional system solutions for industrial use on over 32,000 m², regardless of industries and markets. Thanks to the latest technologies and manufacturing methods, we implement customer-specific solutions, our own products and value-added services at the highest level for our customers at various locations worldwide. The collaboration of development, design, production and logistics not only allows us a short time-to-market and a unique product portfolio, but is also our basis for the successful implementation of demanding applications that require high-quality standards.



BONDING

- › Assembly of display, touch sensor and cover glass units
- › Air (gap) bonding
- › Full automatic optical bonding processes (OCA/LOCA/GEL/HYBRID)
- › Automatic cleaning machine
- › Inhouse tail bonding
- › Nearly 1,200 m² cleanroom facility
- › Automated optical inspection (AOI)



PRODUCTION

- › Flexible production line
- › Cable assembly
- › Pre-fabrication
- › Supply quality assurance
- › Panel enhancement
- › Production monitoring
- › Automated pick & place
- › Automated hot melt processes



MECHANICS

- › Certified IP68 protected housing
- › Mechanical workshops
- › Fast prototyping
- › Production aids



TEST AREA

- › Climatic test rooms
- › Long time endurance tests
- › Thermal simulations
- › EMC test rooms
- › EMC improvements
- › Pre-testing before certification



QUALITY MANAGEMENT & SERVICES

- › Internal and external auditing
- › Aftersales services
- › RMA process
- › On-site service
- › Service & maintenance contracts
- › Service training



LOGISTICS

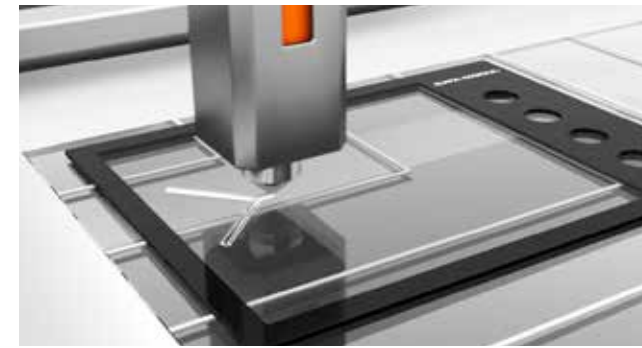
- › Worldwide client-specific logistics concepts
- › Lead time optimizing logistics processes
- › State-of-the-art shuttle systems



BONDING TECHNOLOGIES

Optical bonding of touch sensor, cover glass and display is made possible by different bonding technologies available in our factories in Europe. We have OCA, LOCA, Air, Gel, ACF Tail and Hybrid bonding capabilities in-house, making us a single source for custom touch-display solutions. The right bonding method can be selected based on the customer's requirements in terms of mechanical and environmental performance, design and price target.

We are one of the largest and most versatile bonding suppliers for the industrial display market in Europe, thanks to our cleanroom equipped production and development facilities of several thousand square meters.



LOCA BONDING

- › Liquid optical clear adhesive (LOCA) bonding technology is specially suited for the adhesion of hard materials like glass, plastic and TFT panels and cured by UV light



OCA BONDING

- › The optical clear adhesive (OCA) lamination process uses the adhesive layer on PCAP touch films to laminate the sensor to the cover glass



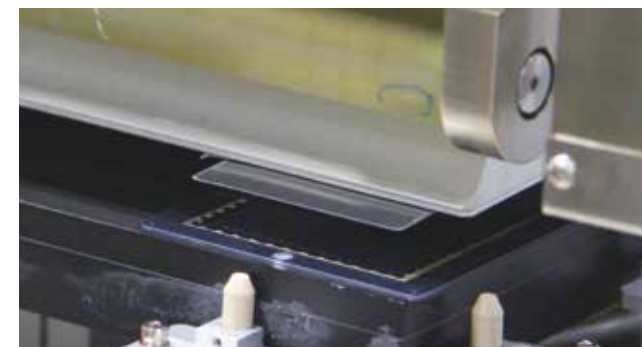
HYBRID BONDING

- › A new bonding technology that combines the advantages of LOCA and OCA bonding has enabled DATA MODUL to manufacture touch display solutions in a cost-effective manner for high-volume demands



AIR GAP BONDING

- › Industrial adhesive tapes are used to bond cover glass, resistive or PCAP touches to the metal frame of a TFT display



GEL BONDING

- › Display and touch unit are glued using gel pads. The cut is applied to the touch unit and glued via roll lamination



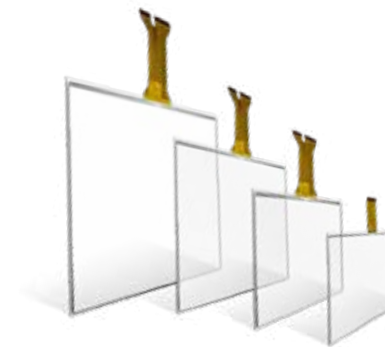
TAIL BONDING

- › Electrical and mechanical connections between SITO touch sensor and FPC tail



RESEARCH & DEVELOPMENT

From development to construction to certification support: our highly qualified teams of experts and engineers take on current market trends and perspectives and implement them in innovative hardware and software solutions. This creates perfectly tailored and future-oriented solutions in touch, embedded, controller and software development based on individual customer requirements.



TOUCH DEVELOPMENT

- › easyTOUCH: in-house designed projected capacitive touch sensors
- › Latest IC technologies e.g. MICRO-CHIP maXTouch, ILITEK and others
- › Multi-touch, water and glove operations, palm suppression
- › Support from experienced field application engineers
- › Customer-specific developments



EMBEDDED DEVELOPMENT

- › Fully custom embedded solutions
- › Engineer to engineer support
- › Seamless integration support for display and touch
- › Project-specific cooling concepts
- › High density for complex designs
- › ARM and x86



LCD CONTROLLER BOARD DEVELOPMENT

- › In-house developed eMotion LCD controller boards
- › eMotion kits: pre-configured LCD controller board kits including all necessary components for individual display control
- › Custom firmware services
- › Accessories like remote controls, ambient light sensors, etc.



SOFTWARE DEVELOPMENT

- › BIOS support
- › Bootloader support
- › Driver development, APIs
- › Board support packages
- › Mainline-based Yocto Linux OS
- › Touch firmware featuring health check for sensors
- › Application software for HMIs and content management



MECHANICAL DESIGN

- › Professional housing and construction concepts
- › Thermal management simulations
- › Cooling and heating concepts
- › Custom cover glasses



CERTIFICATION SUPPORT

- › Support during EMC certification
- › Certificated according to DIN EN ISO 14001, 9001, 13485
- › Project and product-based certifications in accordance with UL, CE and more

DATA MODUL AG

Landsberger Str. 322, DE-80687 Munich
Phone: +49 89 56017 0

www.data-modul.com