



DIGNITY

TOUCH SOLUTIONS

SINCE
1994

www.dignity-eu.com

DIGNITY

TOUCH SOLUTIONS

Dignity Electronics was founded in 1994 as an HMI and touch solutions supplier, and for more than twenty five years has been focused on researching, designing and manufacturing interface solutions (primarily membrane switches, touch screens, capacitive sensors and display assemblies) for consumer and commercial applications.

Dignity provides standard and custom-designed touch products to companies worldwide, and have the needed technical know-how and capabilities to build the right solution for the customer's needs.

Dignity currently manages two facilities with a total area of more than 25,000 square meters, including a class 1000 clean room production area of more than 3500 square meters and multiple touch screen integration production cells rated to class 100 and above. With more than 500 workers, Dignity currently produces millions of components per year, including hundreds of thousands of touch screens.

With our new integrated facility in place, we have multiple automated and semi-automated production lines, as well as the manufacturing and design capabilities necessary to serve our customers for both low-volume, highly-customized projects as well as high-volume, standardized production runs.

In 2019, we established a subsidiary, Dignity Europe, in Valencia (Spain) to better serve our valued European customers.



Touch Panels & Modules

- Custom & Standard Products
- Projected Capacitive
- Resistive
- Optical Bonding
- Touch Display Modules

Other Touch Solutions

- Capacitive Switching
- Capacitive Switch Modules



Why Work With Us

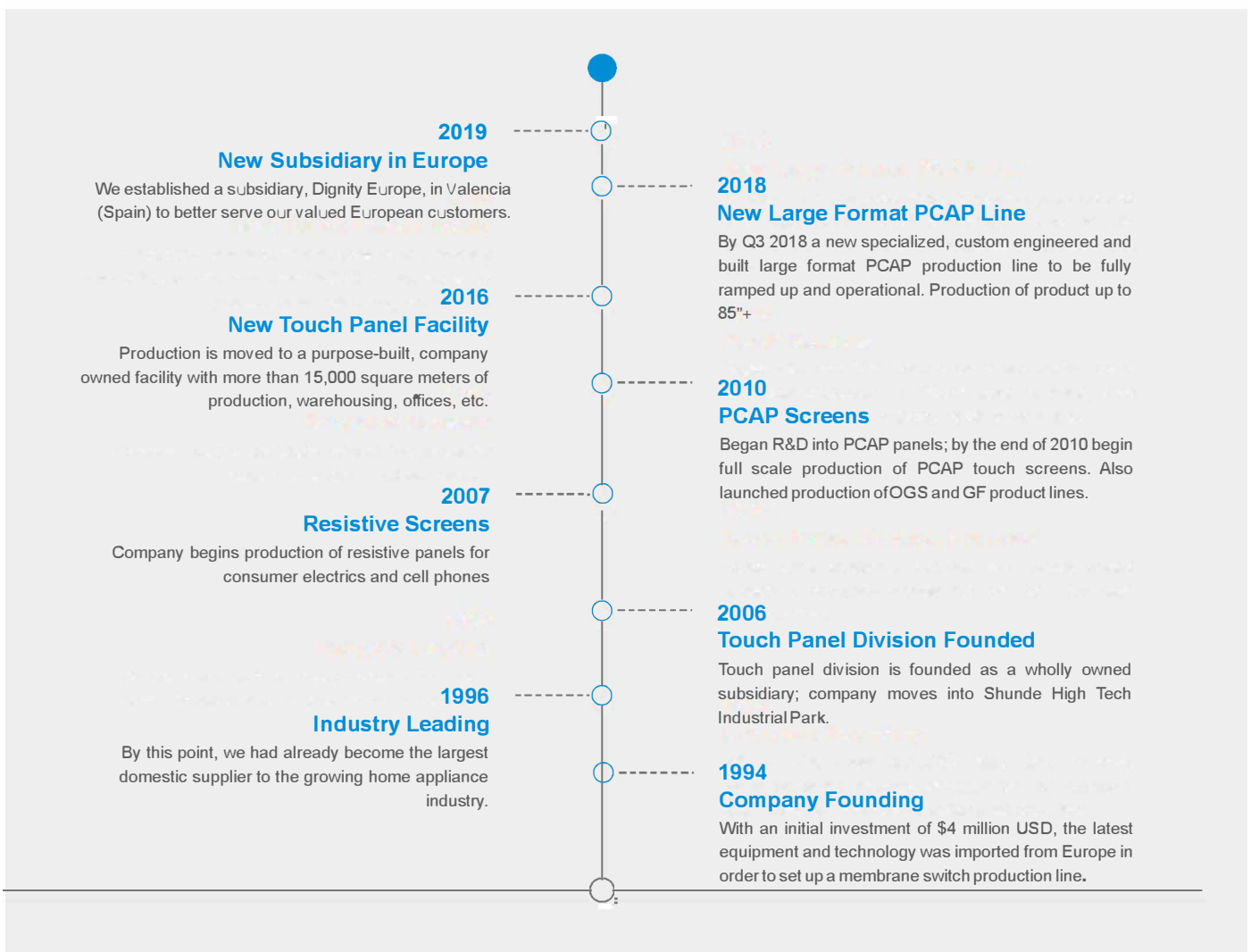
Why work with Dignity? Dignity provides touch solutions for a large range of companies, from SMEs to Fortune 500s. We're their partner of choice for several key reasons:

Focused - Reduced lead times and communication cost due to dedicated project teams.

Experienced - With nearly twenty five years of designing and providing high quality HMI solutions to all levels of customers, from customized low volume solutions to millions of components a year, we have the experience, knowledge and management systems in place to deliver a quality product on time, every time.

Capable - We've been certified and recognized by more than ISO - we work with some of the biggest names and most demanding partners worldwide in appliances, interface systems and consumer electronics (Hisense, Whirlpool, LG, Midea, Galanz, Haier).

Turnkey Solutions - Dignity has three touch screen production lines, including one dedicated to large format PCAP products, and multiple integration production cells. With in-house touch sensor production, CNC milling, laser etching, silk screening, optical bonding and other capabilities, Dignity is a Turkey manufacturer for a range of touch solutions.





Extensive Category Experience

We have nearly 25 years in the field of HMI solutions and more than 10 years of touch panel design, production and engineering experience.

First Class Production Capabilities

A modern, flexible and fully equipped production facility allows us to meet the capacity and quality demands of any customer.

Superior Quality Control

We have a rigorous and time tested quality system and structure that has allowed us to work hand in hand with some of the largest and most demanding multinationals.

Superior Service

We have a fully capable engineering, design, project management, logistics and operational team to provide complete service to our customers.

Lead Time Reduction

Our average lead time is less than 20 days for repeat orders and we can provide a design solution for most customers within 3-4 days.

Product Life Extension

We typically offer a year warranty as standard on most products, more than five years of product line availability and free software update services in perpetuity.

Projected Capacitive Touch

Product Overview

Dignity offers a wide range of Projected Capacitive (PCAP) touch screens (also known as PCT), with a variety of enhancements, sizes and others options. We offer in-house design, engineering services, firmware tuning and other options to optimize the final touch solution for your end use.



Features

- Variety of product constructions and sizes available, with both custom and standard product ranges.
- Supports up to 6mm cover lens for the most rugged touch applications.
- Customizable silk screening, logos, cut outs and colored glass options.
- Provides support for a range of touch performance enhancements, from 10-50 touch points, water resistance, gloved touch and stylus usage.
- Variety of optical and performance enhancements and filters to customize products for final application.



Product Size Range
Standard / Custom:
4.3" - 86"



Customization Options
Full range of cover lens, touch
sensor and electronics options



Product Support
Firmware tuning and
software support provided

Product Customization

Parameter	
Screen Size (Diagonal inches)	Standard: 4.3" – 86"
Integrated LCD	Yes / No
Product Construction	GG / G1F / GFF / PG
Integration	Tape Bonding / Optical Bonding (OCA & LOCA)
Cover Lens	
Cover Lens Thickness	0.55mm – 6mm
Cover Lens Material	CS Glass, Gorilla Glass, Heat Tempered, Plastic, etc.
Additional Options	Silk screening, logos, cut outs, colored glass, etc.
Touch Controller & Interface	
Controller Location	COB / COF
Controller Type	Silicon Works / EETI / Customer Supplied / As Specified
Interface	I2C, USB, RS232
Operating System	Windows XP, 7-10, Linux, iOS, Android
Performance Options	2-50 touch points, palm rejection, water rejection, gloved use, gestural controls, active stylus, etc.
Product Enhancements	
Optical	Anti-Glare / Anti-Reflection / Mirror Finish / Dead Front
Others	Anti-Fingerprint / Anti-Shatter Film / Hard Coat
EMI Resistance	Metal Mesh / Firmware Tuning / EMI Filters

Projected capacitive touch screens offer superior touch performance, optical quality, lifespan, resistance to damage and other considerations. They can support multiple gestures and up to 50 simultaneous touch points.

Product Applications



Office
Automation



Gaming



Retail
& POS



Industrial &
Instrumentation



Medical
Equipment



Kiosk &
POI

Touch Display Module

Product Overview

Dignity offers a wide range of both standard and custom developed Projected Capacitive (PCAP) touch liquid crystal display modules, with both commercial and consumer displays available. Combining our high performance PCAP multitouch technology with a range of LCD displays to offer customers a turnkey solution that reduces development cost and lead time while offering superior design flexibility and customizability.



APPLIANCES



POS



KIOSK



POI



GAMING

Features

- Supports up to 6mm cover lens for the most rugged touch applications.
- Highly customizable cover lens -silk screening, cut outs, enhancements, etc.
- Water rejection and gloved touch supported (nitrile, latex, vinyl, cotton, etc.)
- Optical bonding available for enhanced module performance and lifespan.
- Designed for highly customizable touch interactions and UI.

Product Applications

Office
AutomationCommunication
& EducationRetail
& POSIndustrial &
InstrumentationMedical
EquipmentKiosk &
POI

Gaming

Product Customization

Parameter	Options & Notes
Screen Size (Diagonal inches)	Standard: 4.3" – 86"
Product Construction	GG / G1F / GFF / PG
Integration	Tape Bonding / Optical Bonding (OCA, OCF & LOCA)
Cover Lens	
Cover Lens Thickness	0.55mm – 6mm
Cover Lens Material	CS Glass, Gorilla Glass, Heat Tempered, Plastic, etc.
Additional Options	Silk screening, logos, cut outs, colored glass, etc.
Touch Controller & Interface	
Controller Location	COB / COF
Controller Type	Silicon Works / EETI / Customer Supplied / As Specified
Interface	I2C, USB, RS232
Operating System	Windows XP, 7-10, Linux, iOS, Android
Performance Options	10-50 touch points, palm rejection, water rejection, gloved use, gestural controls, active stylus, etc.
Product Enhancements	
Optical	Anti-Glare / Anti-Reflection / Mirror Finish / Dead Front
Others	Anti-Fingerprint / Anti-Shatter Film / Hard Coat
EMI Resistance	Metal Mesh / Firmware Tuning / EMI Filters
LCD Options	
LCD Type	IPS / VA / Transflective / etc.
Standard LCD Suppliers	Tianma / BOE / AUO / Innolux
Lifespan	30k / 50k / 100k
Brightness	200 – 1000 nits

LCM Modules

In addition to our touch screen product line, we also offer touch screen integration services to our customers. Touch screen integration bonds the touch panel and sensor to the selected display. There are multiple varieties of bonding available based on cost and performance considerations:

Liquid Optical Bonding (LOCA/OCR)

Liquid Optical Bonding (LOCA/OCR) - this uses a liquid clear adhesive cured by UV light to fill the gap between screen and display. LOCA provides the greatest improvement in display performance, though it adds significant cost.

Tape Bonding

Tape Bonding - using double sided adhesives, we attach the display directly to the touch panel. A low cost, efficient solution that provides some ruggedization and improves product lifespan.

Dry Optical Bonding (OCA)

Dry Optical Bonding (OCA) - this process uses sheets of clear, pressure-sensitive sheet adhesive to bond the display and touch screen. A good mix of improved performance and cost competitiveness.

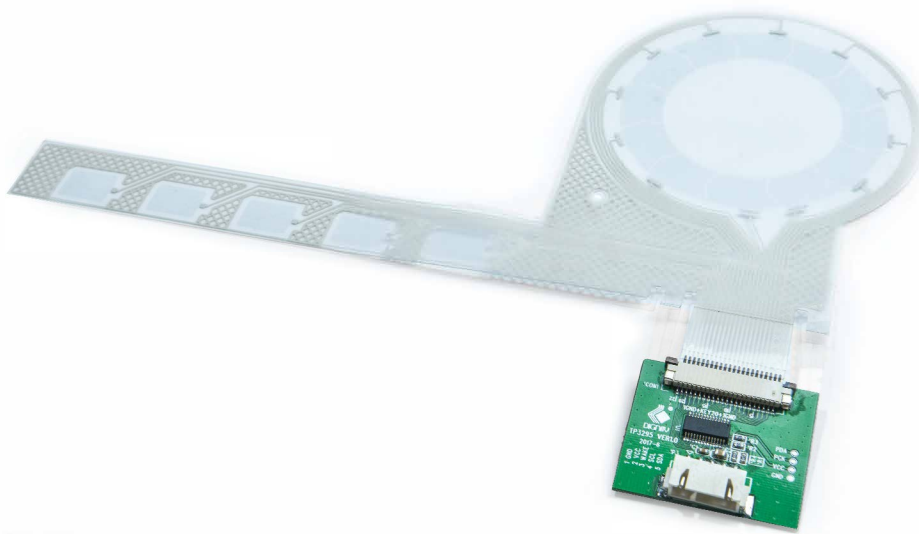
Display Integration Methods	Display Services	Design Services
Optical Bonding (OCA)	LCD Display Sourcing	Solution Engineering
Optical Bonding (OCR)	LCD Purchasing	Product Engineering
Tape Bonding	LCD Integration	Enclosure Design Consulting
—	LED Display Sourcing	Extensive Design Data Base

*Note: Additional enhancements and product options are available upon request.

Capacitive Touch Switch

Product Overview

Dignity manufactures a range of capacitive touch sensors (or switches) that provide the attractive modern look and feel, as well as the flexible UI of a touchscreen at a portion of the cost of a custom LCD touch module. Fully sealed behind a glass or plastic cover lens, with no moving components, and waterproofing, hard coating and other options available, capacitive touch sensors offer a reliable, durable, flexible and responsive alternative to traditional push button or membrane switches. Due to its resistance to scratching, chemicals, impacts and dust/debris, and its modern aesthetic, capacitive switching is achieving widespread use in industrial, medical, automotive and other industries.



Features

- Unparalleled UI flexibility - the sensor can be adhered to 3D/curved glass or plastic control panels, and use a variety of touch layouts and methods, various cover lens materials and enhancements, etc.
- Significant cost advantages to PCAP touch screens and ITO film.
- Easy integration of back lighting and a high level of flexibility in backlighting design.
- A variety of input and interface methods: buttons, touch pads, sliders and wheels.
- A range of non-conductive overlay materials can be used (glass, acrylic, plastics) up to and exceeding a thickness of 6mm.
- Can be combined with touch screens, LCDs, LEDs and OLEDs for a variety of display / touch module layouts.

Product Applications



Office
Automation



AV & Lighting Controls



Home Appliance



Industrial &
Instrumentation



Medical
Equipment

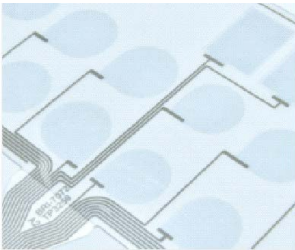


In-Vehicle

Product Customization

Parameter	Options & Notes
Screen Size (Diagonal inches)	As per Specification"
Integration	Optical Bonding
Cover Lens	
Cover Lens Thickness	0.55mm – 6mm
Cover Lens Material	CS Glass, Polyester, Polycarbonate, Acrylic, etc.
Additional Options	Silk screening, logos, cut outs, colored glass, etc.
Touch Controller & Interface	
Controller Location	COB / COF
Controller Type	Hetai / Cypress / As Specified
Interface	I2C, USB, RS232, UART
Operating System	Windows XP, 7-10, Linux, iOS, Android
Performance Options	Touch "panel", touch buttons, touch "slide", touch "wheel" and other options
Product Enhancements	
Optical	Anti-Glare / Anti-Reflection / Mirror Finish / Dead Front
Others	Anti-Fingerprint / Anti-Shatter Film / Hard Coat
EMI Resistance	Metal Mesh / Firmware Tuning / EMI Filters

Product Form Factors



Touch Sensor

The base sensor layer that detects a user’s touches; created by a printed electronic production process.



Touch Sensor w/IC

The sensor foil with a touch IC attached via one of two methods.



Touch Sensor w/Lens

The sensor foil is bonded to a cover lens of plastic or glass material. Can come with IC embedded.



Capacitive Sensor Module

A full display assembly ready for direction installation; LCD/ LED/OLED or other display option optically bonded to the cover lens and touch sensor.

Touch Input Methods	Cover Material	Display Choices	Value Added
Touch Button	Chemically Strengthened Glass	OLED Display	EL Backlighting
Touch "Panel"	IMD Panels	VFD Display	LED Backlighting
Sliders	PMMA	LED Display	COF / COB
Wheels	ABS	LCD Display	Modular IC
	PET		Firmware Design
			Touch IC Tuning

*Note: Additional enhancements and product options are available upon request.



Product Application

Dignity's provides touch solutions for a varied range of end applications as diverse as digital whiteboards for education, testing equipment for the telecommunications industry, mobile POS units for retail and food service to industrial panel PCs for factory automation. Our width and breadth of experience means that we can meet any customer requirement and fulfill the toughest testing regime. Our team will translate your end product requirements into detailed touch and display specifications to make ensure the quality of your touch solution.

- Gaming
- Industrial
- Education
- Medical
- Home & Office



- Automation
- Digital Signage
- Appliances
- Marine & In-Vehicle
- POS





Dignity's Strategic Partners

Dignity Electronics ships HMI components and touch solutions to a range of partners worldwide, including some of the largest appliance, POS and consumer electric manufacturers in the world. We also cooperate with many of the most advanced Chinese and international display companies in the Pearl River Delta region to provide complete display and touch solutions to our customers.

seewo 希沃

Hisense

美的 Midea

Whirlpool
HOME APPLIANCES
惠而浦

DIGNITY

LG

CVTE
Dream • Future

Galanz
格兰仕

京东方
BOE

Full Solution Engineering

Working from either your specifications or designing a custom solution for your needs based on our experience and extensive design library, we can quickly develop fully customized products that integrate seamlessly into your end application. Our engineering and sales teams oversee the project from prototyping through production.



Touch Sensors

- We provide both resistive and projected capacitive touch technology.
- A range of sensor structures and sizes available (4.3"-86").
- Custom sensor pattern and trace designs available.
- Customized touch performance design and tuning provided in-house.

Display Integration

- Air bonding integration available for cost-effective display integration.
- Dry and liquid optical bonding available for more demanding applications.
- Improved optical performance, environmental resistance and ruggedness.

LCD Touch Modules

- Custom and standard touch display modules available.
- Sizes from 4.3" to 86" available.
- Cooperation with most major LCD factories.

Cover Lens

- Highly customized cover lens design available.
- Silk screening, cutouts, custom bezel design.
- Supports up to 8mm thick cover lens for demanding applications.
- Chemically strengthened, heat tempered and other glass varieties available.

Display Enhancements

- Variety of enhancements available.
- Range of Optical enhancements.
- Mirror coating and Deadfront effects available.
- Multiple EMI shielding options.

Capacitive Switching

- Variety of form factors available up to full touch display module.
- Can be combined with touch panel assemblies.
- Multiple touch input methods.
- Range of cover lens and performance options.



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To find out more about our range of standard and custom touch solutions, or to consult on a project, please visit www.dignity-eu.com or contact the sales office nearest you.

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