

Touch solutions for industrial and demanding applications

Post Covid19 have learn us all to think on how to interact, and doing it with technologies in future HMI solution for medical equipment in a safe and smarter way.

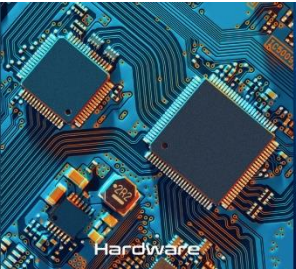


batenburg
applied technologies

smarter focus.
brighter tomorrow.



D&E
EVENT



Hardware



Software



Test & Measurement



Engineering



Research & Development

Het ontwerpen van
innovatieve elektronica

Woensdag 20 maart 2024
1931 Congressentrum 's-Hertogenbosch

Smart UI... Exceptional UX



EMERGING
DISPLAY
TECHNOLOGIES
CORP.



- **Established in September 1994**
- **Headquarter in Kaohsiung, Taiwan**
- **Listed on the Taiwan Stock Exchange**
- **Approximately 1200 employees worldwide**
- **Present Globally with local support teams**
 - **EDTE**

- **Partnership**



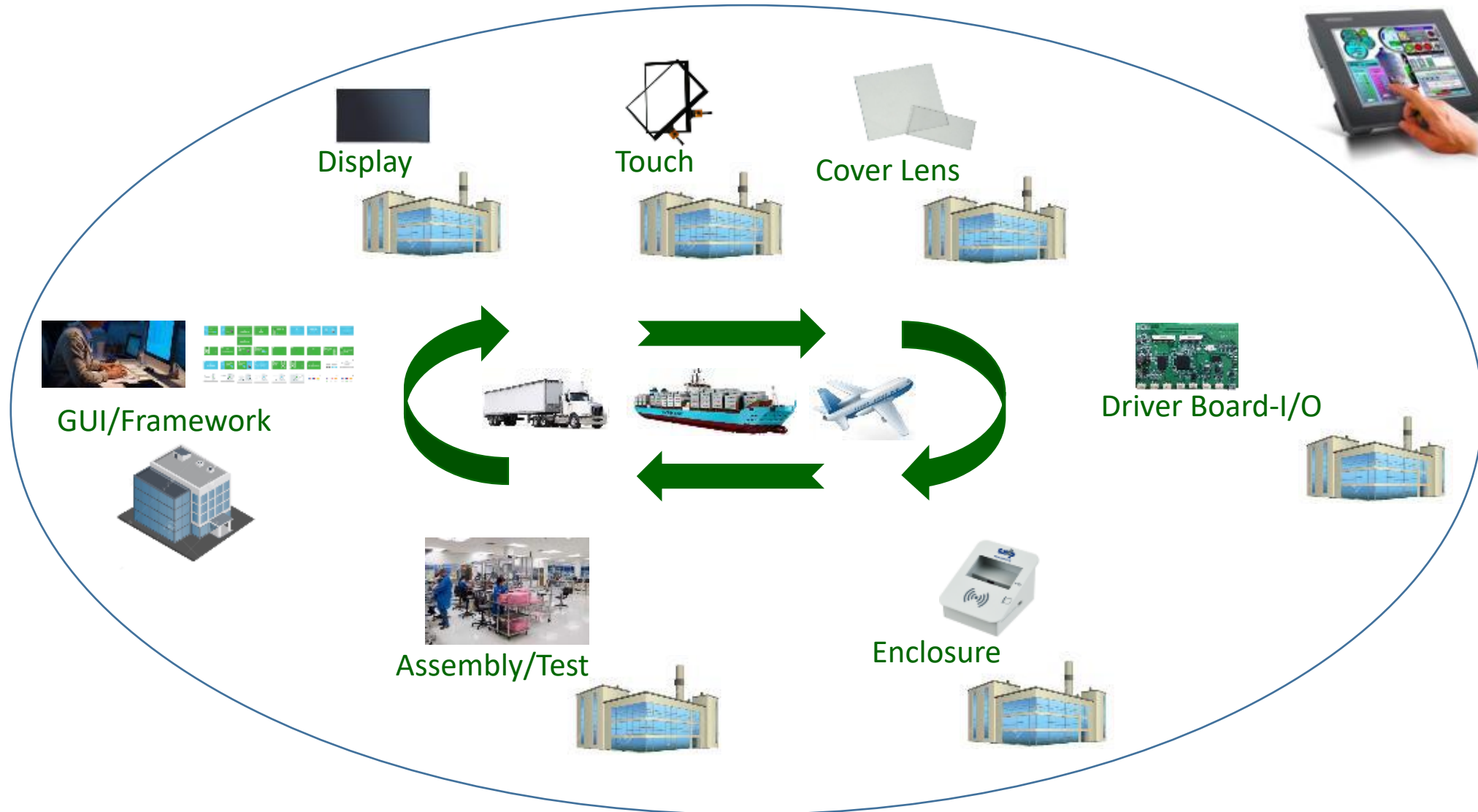
Certifications

Scope	Standard
Quality	ISO 9001 Quality Management System
	IATF 16949 Automotive Quality Management System
	ISO 13485 Medical Device Quality Management System
Environment	ISO 14001 Environmental Management System
	IECQ QC080000 Hazardous Substance Process Management System
Occupational Health and Safety Management	ISO 45001 Occupational Health and Safety Management System
Environment, Labor, Human Rights, Business Ethics, and Sustainable Procurement	EcoVadis Global Business Sustainability Ratings

The "2022 Sustainability Report" is EDT's ninth sustainability report, available in both Chinese and English (asynchronously), and can be downloaded from the EDT website at <https://www.edtc.com>.

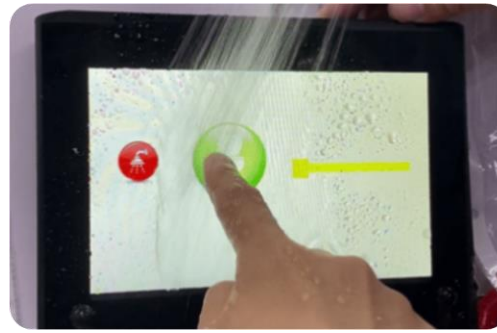


Components to consider in the HMI



Application Considerations

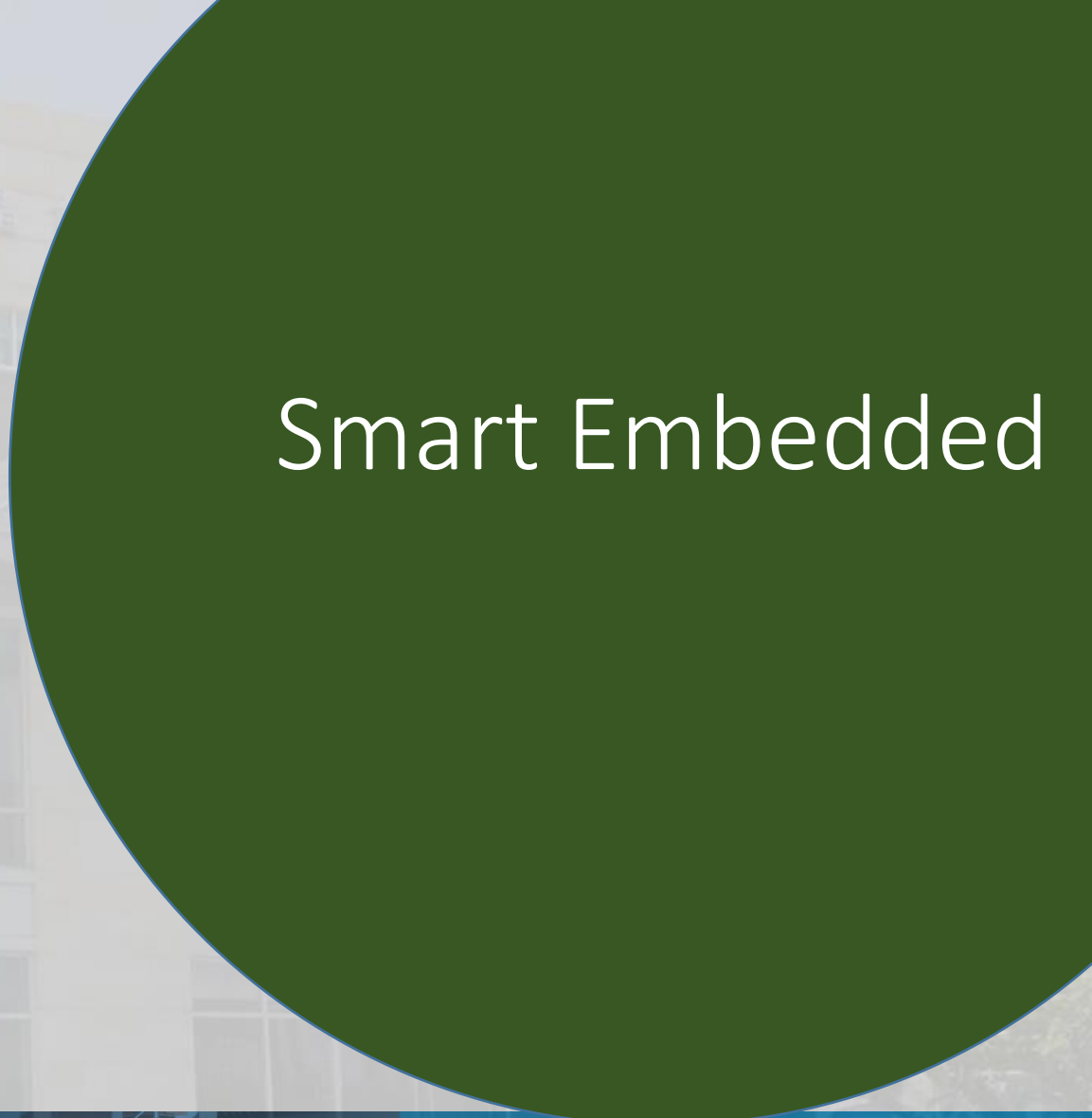
Indoor Outdoor



- Indoor/outdoor
- Water/Gloves
- Air touch/Space gesture
- Temperature
- UV/Gasses/Oil/Blood
- Impact strength/Vibration
- Surface treatments (AG, AR, AF, AB)

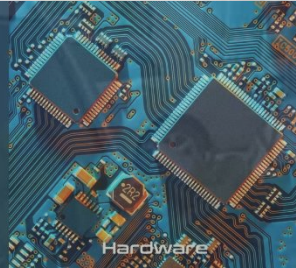


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Smart Embedded

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Core competence



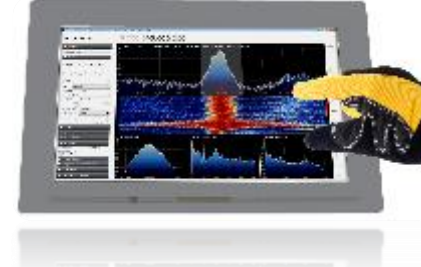
Capacitive Touch & Sensor Integration



LCD Display module



Embedded GUI & driver board



Cover Lens integration & Sensor Tuning



Process & Manufacturing



Product & specs Considerations

GUI/Framework

Cover Lens

Treatments

Capacitive Touch

Bonding

LCD/TFT Display

/ IF Board

Housing



OS
Graphic Design
MMI / GUI
Framework
Implementation

Cutting
Drilling
Polishing
Printing
Curing

AG/Anti-Glare
AR/Anti-Reflection
AF/Anti-Fingerprint
AB/Anti-Bacterial
UV-protection
..and combinations.

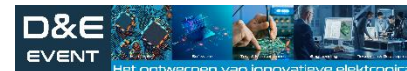
ITO Sputtering
Metallization
Develop/Etch
OCR
IC/Firmware
Curing (UV)

Air (DSA)
OCR
OCA
Vacuum process
Curing (UV)

Panel Cutting
LC filling
COG
FPC attachment
Backlight
Metal Bezel
Polarizer attachment

Schematics
PCB Layout
SMT Process
Attachment
EMC

Material selection
Tolerances
Molding & welding
Glue bonding
Tape bonding
Mechanical testing



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Smart Embedded solution provider

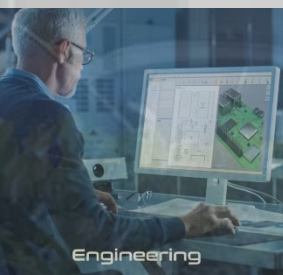
- Series of Highly Integrated Modules
- System platform solution including Sensors, Power Supply, MCU Subsystem and Interfaces
- We can offer implementation services and GUI programming





Liquid UX

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Possible Applications



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10 liters water volume per minute



Up to 21% saline water



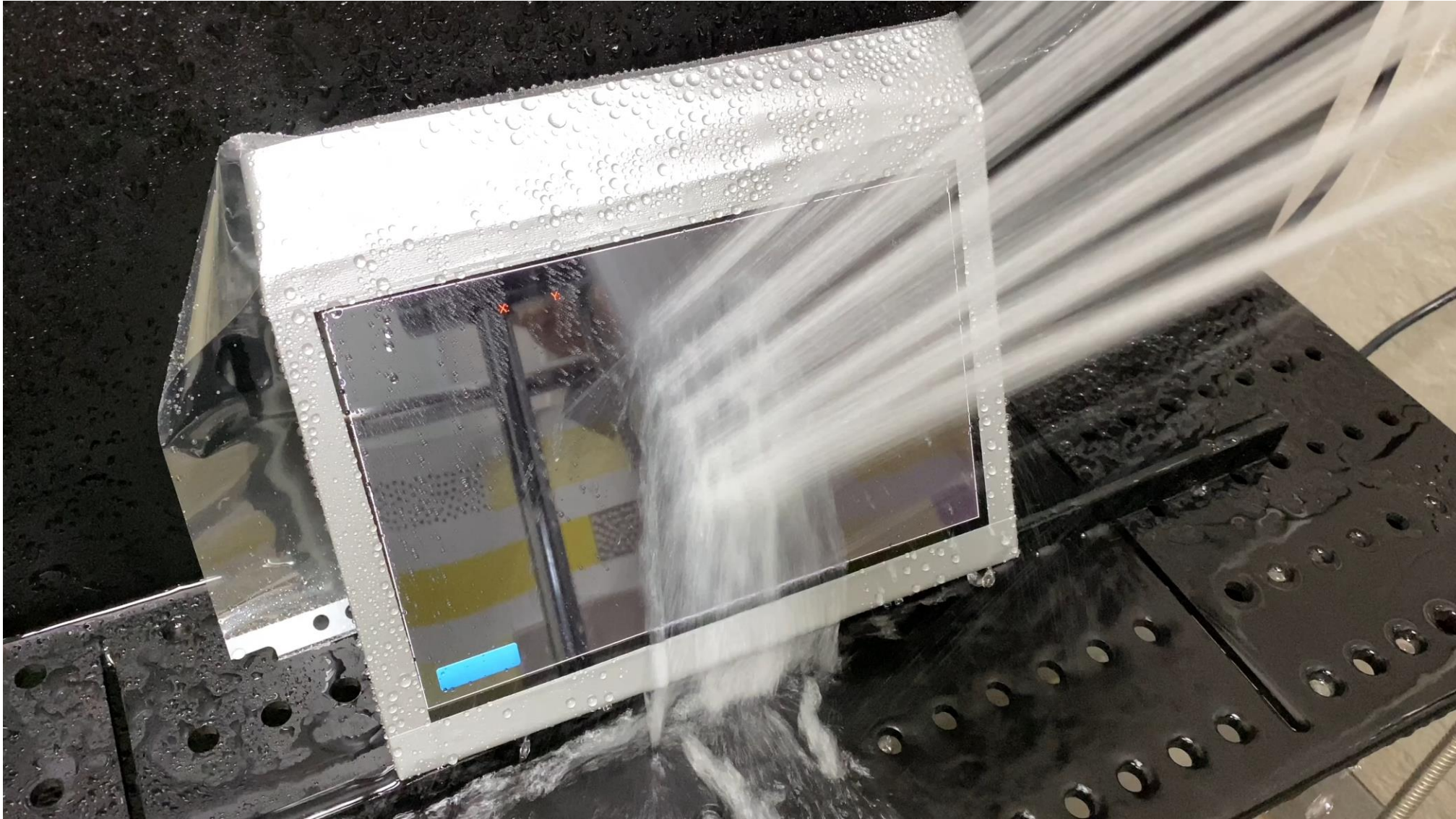
No false touch



Up to 1mm thick gloves

LiquidUX Capabilities





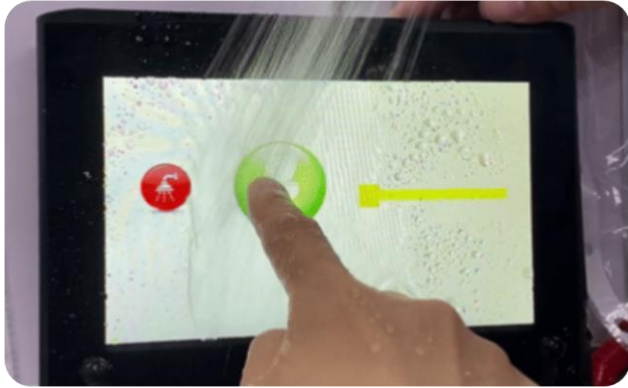
Demo of Liquid UX



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1) Support water mist and water droplets by **mutual capacitance** sensing technology

2.1) Support puddle and flushing by **mutual capacitance + self-capacitance** sensing technology

2.2) Support Conductive liquid, like in Medical and Maritime field.

Support water mist and water droplets, and in bathroom and 3C field we can support puddle and flushing.



Application field	Liquid type	Conductivity
Medical	Normal saline	14.05ms/cm
	Blood	16.77ms/cm
Maritime	seawater	57.6ms/cm
Bathroom	Tap water	459µs/cm
3C	rainwater	400µs/cm

Liquid UX
water tolerant
touch
technology





Space Gesture

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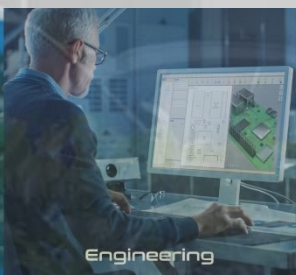
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Possible Applications



**Multi
Touch**

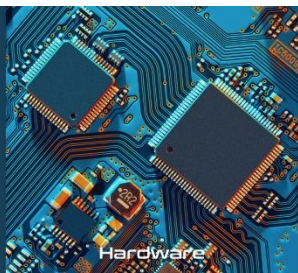


Space
Gesture
Demo

With Water

**...and
glove**

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Software



Test & Measurement



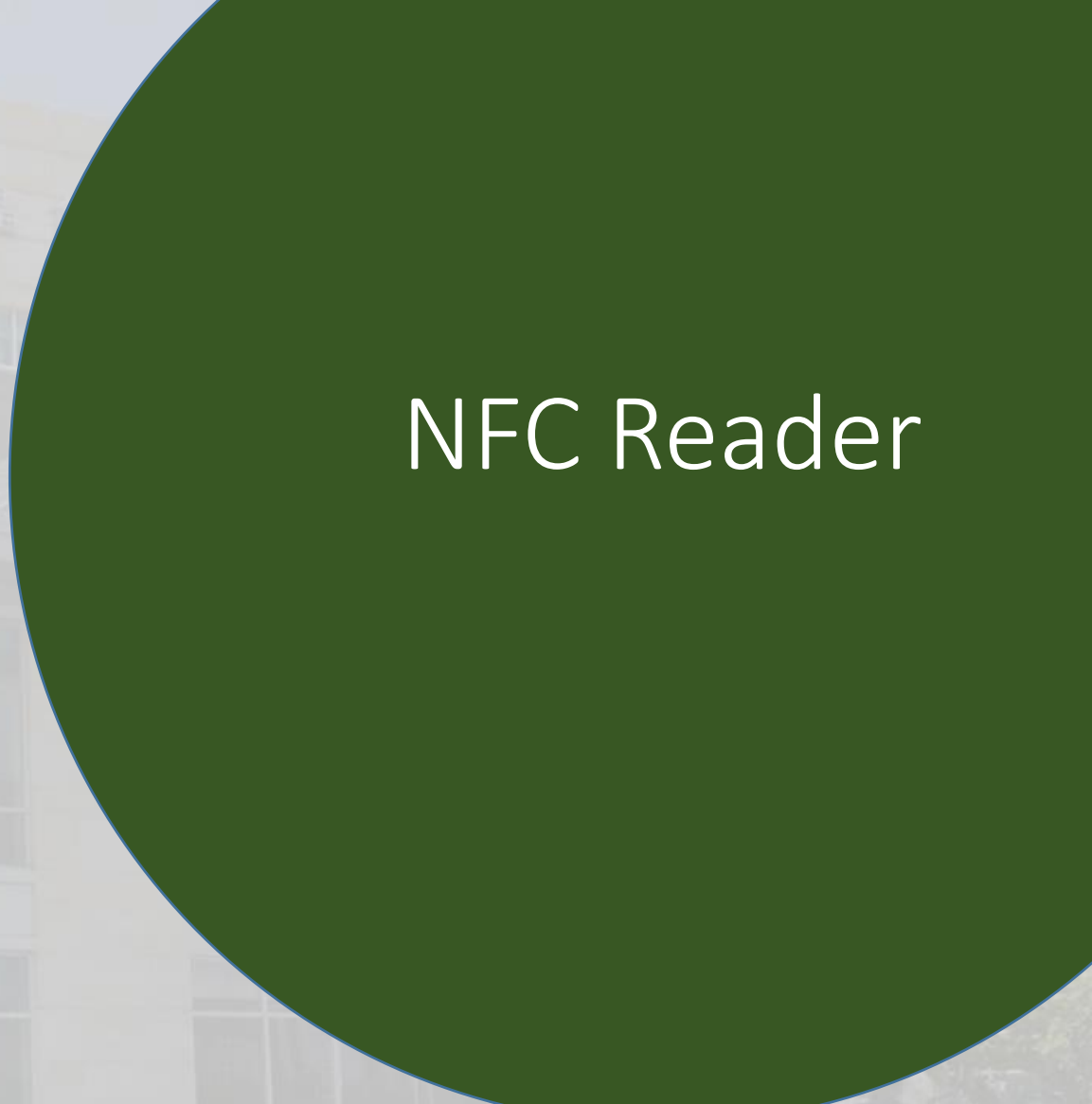
Engineering



Research & Development

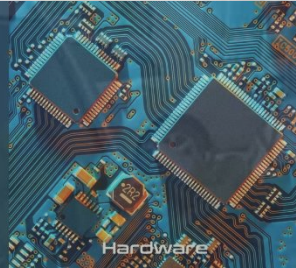
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NFC Reader

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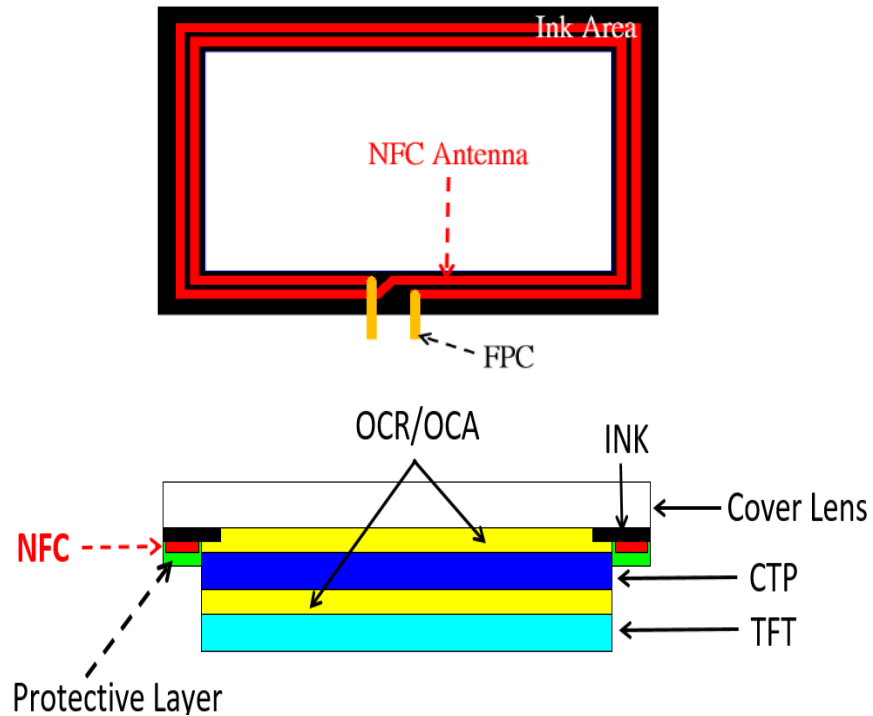
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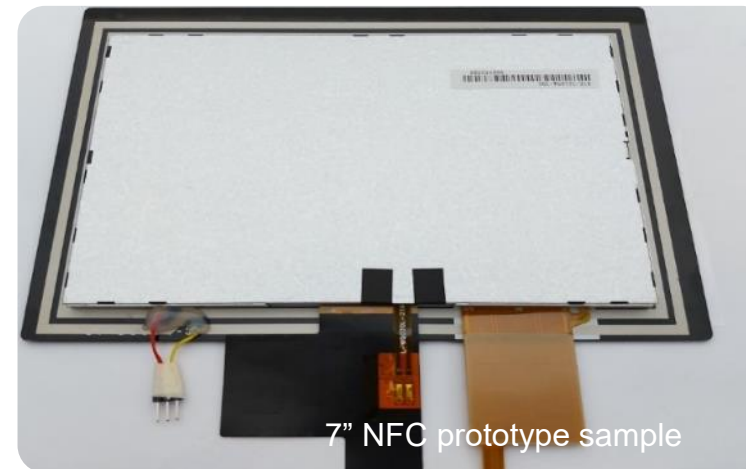
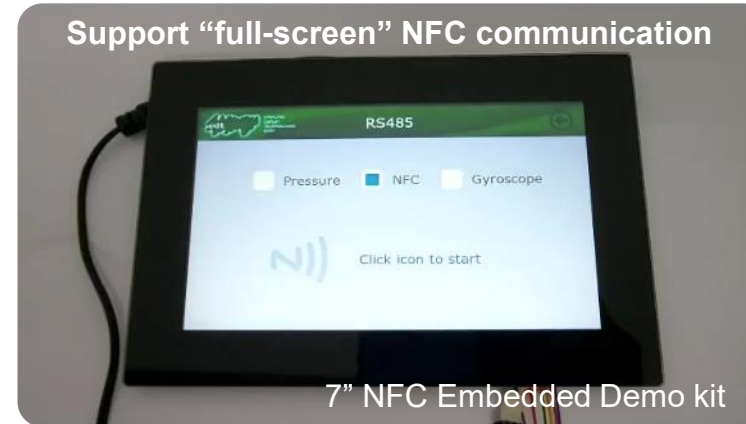
Infusion Pump



NFC Reader integration



- Saves equipment space and improves usability
- Optimal design enables communication through LCD display
- Allowing easy and intuitive operation
- Support full-screen NFC communication
- NFC IC based on STM or NXP with encryption (optional)



eat

Word cloud containing various expressions of gratitude in multiple languages, including: danke, thank you, gracias, obrigado, merci, sukriya, and many others.

Thank you for your attention !
Any Question

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Questions or applications?

Visit us at our booth or get in touch with the Batenburg Applied Technologies Display Team.



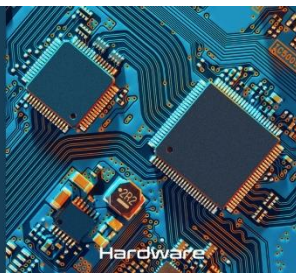
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